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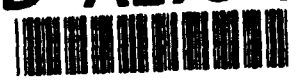

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Continued escaltion of healthcare costs in boththe private and government sector has resulted in concerted efforts aimed at reducing costs of operation while maintaining appropriate levels of quality and accessibility. This project investigates and reports the benefits of utilization management as an integral componet of cost reduction efforts. Findings from the literature were applied to cost and workload data experienced by Wilford Hall in fiscal year 91. Results show a potential savings of up to 23.8 million dollars (MEPRS). This paper also suggests a methodolgy to begin implementation at Wilford Hall as well as any other Department of Defense medical treatment facility.

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UTILIZATION MANAGEMENT FOR DEPARTMENT OF DEFENSE MEDICAL TREATMENT FACILITIES

A Graduate Management Project

Submitted to the Faculty of

Baylor University

In Partial Fulfillment of the

Requirements for the Degree

of

Master of Health Administration

by

Major Robert N. Armstrong, USAF, MSC

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Completing this research project would have been impossible without the help of many very special people. First, I would like to thank Colonel Harold W. Grinstaff, Administrator of Wilford Hall U.S. Air Force Medical Center (WHUSAFMC), for sharing his wisdom and insights on health care. Colonel Grinstaff's vision of the future, his professional demeanor, and his absolute, patient-centered perspective have made a lifelong change in the way I view our profession. Secondly, I would like to thank Lieutenant Colonel Russ Coleman, Director of Managed Care, WHUSAFMC. His experience, knowledge, and patience have made this project a true learning experience and, hopefully, a meaningful product. I also owe a special thank-you to Lieutenant Colonel Richard Schroeder, Academy of Health Sciences, for his assistance and guidance through this entire effort. Finally, I would like to thank my wife Gayle and my children, who have so selflessly supported me these past two years as I pursued a long-time dream of a solid education.

ABSTRACT

Continued escalation of healthcare costs in both the private and the government sector has resulted in concerted efforts by healthcare providers and payers aimed at reducing the costs of operation while maintaining appropriate levels of accessibility and quality of care. Examples of concerns over cost escalations are pervasive. Stout (1991), for instance, indicates that United States healthcare costs for 1990 reached $676 billion, or 12% of the gross domestic product. Dentzer (1991) reports that runaway healthcare costs are pushing American business down the road to financial ruin by eating up over one-half of pretax profits. Hughes (1990) cites two such examples, reporting that as early as 1987 Ford Motor Company paid $1 billion and General Motors Corporation $3 billion for employee healthcare. Even more alarming, Dentzer (1991) reports that healthcare costs are expected to continue to increase by 60% in constant 1991 dollars by the year 2000.

The Department of Defense (DOD), operator of one of the nation's largest healthcare systems, which includes 128 hospitals located in the Continental United States, over 400 clinics, and the health insurance plan known as CHAMPUS (Civilian Health and Medical Program for the Uniformed Services), has experienced the effects of pronounced operational cost increases as well. Slackman (1991) reports that DOD medical costs worldwide have

essentially doubled over the last six years, rising from $7.2 billion in 1984 to $14.1 billion in 1990.

In these six years, CHAMPUS expenses grew 149%, to $3,119,000,000. Direct care expenses (for care delivered within military facilities) experienced an 85% increase and totaled $10,971,000,000. At the end of Fiscal Year 1990, total DOD medical costs were 4.8% of the Defense budget (Slackman, 1991).

These cost increases are particularly significant due to the current era of federal government cost-cutting and shrinking Defense budgets. The challenge for managers of the DOD health system is to furnish congressionally mandated benefits for approximately nine million eligible patients (6.5 million of whom are nonactive duty) while simultaneously trying to curb cost increases (Slackman, 1991).

A review of the literature indicates some similarity in the origin of increased operational costs for the civilian and the Department of Defense system. For this reason, this project investigated cost-control measures reported as achieving some measure of effectiveness in the civilian sector and compared these to current and proposed DOD cost-containment actions. Specifically, this project defined utilization management and its components, identified successful implementation efforts in both civilian and government programs, and considered their potential transferability to Wilford Hall U.S. Air Force Medical Center and other DOD medical treatment facilities.

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CHAPTER 1

INTRODUCTION

Conditions Which Prompted the Study

Growing concern over the continually escalating costs of operating the Department of Defense (DOD) healthcare system prompted Congress to urge DOD healthcare managers to action in The Defense Authorization Act of 1988. This act directed the Secretary of Defense to conduct managed care demonstrations aimed at slowing the rate of medical financial growth. As a result, each military service has implemented at least one managed or coordinated care project. Although some differences in implementation exist among the three branches of service, the central objective is to seek overall cost reductions by enrolling patients, determining patient demand, and building civilian provider networks to treat excess patient demand at reduced charges. In effect, cost containment under this initiative has been attempted in two ways: (1) negotiating discounts with civilian providers and (2) maximizing use of existing military medical facilities (Slackman, 1991).

All three services have used utilization management to some degree as a component of their demonstrations. However, Slackman (1991) implies that this particular component of traditional managed care programs has received less attention than others. If true, this may have been a costly oversight given assertions by

Feldstein, Wickizer, and Wheeler (1989); Graugnard (1987); Wheeler and Wickizer (1990); and others that utilization management is a very effective cost-containment tool.

The gist of effective utilization management appears quite similar to typical productivity formulas used in other industries that interpret productivity as a ratio of outputs to inputs. If this assumption is true, then individual components of utilization management such as precertification and certification of admissions, concurrent review, case management, second surgical opinions, and discharge planning may be useful in identifying and analyzing intermediate products. Reductions in operational costs of intermediate products should in turn lead to overall operational cost decreases.

Since utilization management is a component of the total Department of Defense coordinated care initiative aimed at maximizing the use of military assets, this study briefly identifies Wilford Hall U.S. Air Force Medical Center's capability, patient base, and business and medical environment within the local community. Wilford Hall Medical Center (WHMC) is a 1,000-bed tertiary care facility which, along with four other area medical treatment facilities (MTFs), is tasked with providing or arranging care for 172,752 eligible beneficiaries residing in the combined Wilford Hall and Brooke Army Medical Center (BAMC) catchment areas, linked by the Defense Medical Information System

computer program (Vector Research, 1989a). Operating with more than 135 medical specialties and subspecialties, WHMC also serves as a referral center for eligible beneficiaries with those more complicated diseases and injuries that exceed the capabilities of the referred patient's local Uniformed Service MTF.

The medical-business environment in which WHMC operates is a key factor to consider as well. WHMC is fortunate in that the San Antonio area in general has available a broad spectrum of health-care providers. Within the Uniformed Service sector, there is another medical center as well as three clinics. There are also a total of 23 nonmilitary hospitals, to include the local Veterans Administration medical center and the 748-bed state mental institution (American Hospital Association, 1991). In addition, five health maintenance organizations and numerous same-day surgery centers offer what appears to be a relatively "target rich" environment for negotiating cost-effective external healthcare agreements.

Most of WHMC's resources are allocated by Air Training Command in the historical total output methodology using measures such as outpatient visits, occupied bed days, prescriptions filled, radiology films exposed, etc. Primary workload statistics reported that cater to this funding methodology include the number of admissions/discharges per month, the average length of stay, and the number of outpatient visits per month. These workload or

output indicators, which have not changed in years, are gross measures that fail to differentiate in intensity of service rendered. Neither is there a direct accounting link between individual episodes of care and amount of resources used for an individual case.

In 1988, Public Law 100-180 mandated that a diagnosis-related group (DRG) allocation system be phased into the Department of Defense resourcing methodology (Lorenz & Jones, 1989). Currently, DRG data are used to some extent in determining a portion of the supply dollars allocated to WHMC. However, the inability to link individual patient expenses to the care rendered handicaps the ability to generate meaningful resources management information. As a result of the lack of specific patient data, much of WHMC's financial funding, as well as the system governing the allocation of manpower, remains unchanged from the "fee-for-service" era, Public Law 100-180 notwithstanding.

A recent Congressional Budget Office report on managed or coordinated care by Slackman (1991) as well as a General Accounting Office (1991) report identify the current resourcing methodology as inefficient and outdated. Fundamental changes in state resource allocation procedures are necessary to motivate healthcare providers to embrace a "managed care" philosophy.

Nearly all of San Antonio's CHAMPUS (Civilian Health and Medical Program for the Uniformed Services) inpatient and mental

health workload is already subject to the constraints of utilization management. This external utilization management for CHAMPUS inpatient care began in 1988 and currently exists in the form of contracted services. Health Management Strategies, Incorporated, was awarded the mental health contract, which went into effect on January 1, 1990.

The current utilization management contracts for the rest of the CHAMPUS inpatient workload were awarded on May 1, 1992, to four regional contractors that provide nationwide coverage. Each of these regional vendors is to apply InterQual criteria to CHAMPUS-sponsored workloads based on a sample of cases selected by the CHAMPUS Record Center, located in West Des Moines, Iowa. Individual cases are referred to the regional vendors by hospital and name of the patient. The regional contractors subsequently request copies of these records from the appropriate facilities in order to conduct their reviews (McCauley, 1992). The Texas Medical Foundation (TMF), located in Austin, Texas, has been awarded the contract for this region ("TMF and 1992-93," 1992).

According to CHAMPUSouthcentral, a quarterly medical peer review journal published by the TMF, each regional utilization management contractor will subject each selected case to the following reviews as applicable:

1. Admission review--to determine medical necessity of admission.

2. Invasive procedure review--to determine if a procedure was medically necessary.

3. Discharge review--to ascertain if the beneficiary is medically stable at the time of discharge.

4. DRG validation review--to substantiate diagnoses and procedures in order to assure accuracy of the DRG.

5. Waiver of liability review--to determine if the hospital or the beneficiary knew, or could reasonably have been expected to know, that an admission or a service was not covered in accordance with 32 Code of Federal Regulations 199.14.

6. Hospital-issued notice of noncoverage (HINN) review--to assure that the beneficiary's right to CHAMPUS coverage is not violated and that procedures for issue of such notices are carried out appropriately.

7. Generic quality screen review--to evaluate the quality of care which a beneficiary received when hospitalized.

8. "An Important Message from CHAMPUS" review--to assure that all patients are receiving HINN notices appropriately and that the contents of each notice meet CHAMPUS requirements ("Required CHAMPUS Reviews," 1992).

CHAMPUSouthcentral also states that some cases will undergo additional screening for the following as appropriate:

1. Noncovered admission review--to establish the "deemed day of admission" (when a beneficiary is admitted for a noncovered

stay but becomes acute during the stay) and to assure that the principal diagnosis reflects the reason for the acute care.

2. Readmission review--to determine (when readmission occurred within 31 days) if both admissions were medically necessary and whether or not a prohibited action occurred (circumventing the prospective payment system or jeopardizing the quality of care through a premature discharge).

3. Rehabilitation specialty unit (length of stay) review--to be performed on all cases selected from certified hospital rehabilitation units exempt from prospective payment to assure that each day was medically necessary.

4. Day outlier review--to be performed on all cases exceeding CHAMPUS long or short stay thresholds.

5. Cost outlier review--to be performed on all cases for which the hospital received outlier payment for charges exceeding the DRG cost outlier payment threshold to determine whether the services provided were medically necessary, appropriate, not duplicatively billed, actually rendered, and ordered by a physician ("Required CHAMPUS Reviews," 1992).

Wilford Hall Medical Center (as all Air Force medical treatment facilities) is required by the Joint Commission on Accreditation of Healthcare Organizations to conduct an internal utilization review function. WHMC's guidance is delineated by Air Force Regulations (AFRs) 168-4, Administration of Medical

Activities (1990), and 168-13, Quality Assurance in the Air Force Medical Activities (1987). Investigation reveals that this function tends to deal with single, gross outpatient/clinical measures such as drug utilization and formulary review and falls far short of utilization management efforts applied to CHAMPUS-sponsored care.

WHMC corporate plans for a more comprehensive internal utilization management program exist but are uncertain at this point in time due to lack of specific guidance from the Air Force or the Department of Defense. The Department of Quality Services (formerly Quality Assurance) is the portion of the management structure formally endowed with the "utilization management tasking" (AFR 168-13). As of the week of March 30, 1992, WHMC had just received one civilian nurse authorization to start the program.

WHMC also has a managed care function charged with planning, organizing, and executing the medical center's coordinated or managed care program, but it does not currently have any utilization management tasking or authority. Finally, the San Antonio Healthcare Coordinating Council, which is responsible for coordinating medical care and resources for the entire San Antonio area, has no operational utilization management tasking either.

WHMC has also just recently begun a preadmission program for select categories of patients. Preadmission at WHMC, however,

does not equate to precertification but rather is used more as a tool for patient placement. WHMC's program, yet in its infancy, does, nevertheless, acknowledge the need to turn its corporate eyes inward toward more efficiently managing expensive inpatient resources.

The 1991 workload for Wilford Hall has been somewhat distorted due to the local impact of Operation Desert Storm but tends to reflect modest increases in admissions and outpatient visits. A small reduction in lengths of stay has been noted over the previous year as well. Increases in the number of ambulatory surgeries performed may account for a portion of the length of stay statistical decline experienced last fiscal year.

Inpatient care volume for DOD beneficiaries is produced mostly in the military treatment facility. According to the Retrospective Case Mix Analysis computer program (Vector Research, 1989b), 82% of the care rendered military eligible beneficiaries worldwide is provided by the military while the remaining 18% is sponsored under CHAMPUS. In San Antonio, the numbers are even more skewed, showing that WHMC and BAMC combined provide 96.7% of the inpatient care for military-sponsored eligible beneficiaries.

Statement of the Management Problem

Wilford Hall Medical Center is faced with the problem of providing or arranging healthcare for its patient population in the most cost-effective manner while simultaneously maintaining

acceptably high levels of access and quality. Utilization management that considers organizational needs, to include WHMC's graduate medical education mission, and patient demand is a critical component of an integrated managed care approach to this problem. Since contracts to monitor utilization of CHAMPUS inpatient care already exist, Wilford Hall needs to focus on internal utilization management efforts which are both effective and compatible with the external CHAMPUS review programs.

Literature Review

Definition and History of Utilization Management

The American Hospital Association defines utilization management (UM) as the planning, organizing, and controlling of healthcare production in a cost-effective manner while maintaining high quality care and contributing to the overall goals of the institution (Zusman, 1990). Baschon (1990) states that the terms utilization management and utilization review are often used to refer to the same process. She comments, however, that she believes that true utilization management evolved as a natural extension of utilization review programs that arose from cost-control efforts associated with the implementation of Medicare in the 1960s but that it has taken a more progressive and time sensitive approach since the implementation of the DRG-based prospective payment system. Payne (1987a & b) also differentiates between utilization review and utilization management by stating

that utilization review is strictly a medical records review for appropriateness of action by medical experts while utilization management is instead a concerted and deliberate action taken by organizations to reduce costs by influencing provider practice patterns. In short, she states that utilization review is a significant technique of integrated utilization management.

Semantics aside, UM is the process of looking for acceptable clinically based methods to control costs while ensuring appropriate access to an acceptably high level of quality care through the application of specific techniques which have been found effective. UM is, therefore, the focus of this study. Griffith (1987) cites the utilization control process as one of the major cost-control initiatives of the 1970s. Feldstein et al. (1988) state that this concept has for years been regarded as one of the most promising approaches to the containment of healthcare costs. Zusman (1990) echoes the assertions of both Griffith and Feldstein et al. and goes on to state that cost savings, which many believe have accrued to Medicare as a result of utilization management, fostered this philosophy's adoption by the insurance industry and corporate America. He comments further that hospitals too have, out of financial necessity, added or strengthened internal utilization management programs.

Although the focus of this project was primarily one of cost savings, utilization management is often credited with increasing

the quality of care provided. Becker (1990) states that UM should improve the quality of care provided by reducing the number of unnecessary services provided. His statement is supported by Brennan, Leape, Laird, Hebert, Localio, Lawthers, Newhouse, Weiler, and Hiatt (1991), whose study of 30,121 medical records of patients treated in New York state, found that 3.7% suffered an injury due to medical mismanagement. Any action that avoids exposing patients to such risks decreases such events and increases the overall quality of care (Becker, 1990).

Another of the ways in which UM increases quality of care is through the application of generic quality screens (Jarrett, 1992; McCauley, 1992). These screens, or criteria, are typically medically accepted standards that allow nurse reviewers to review, either concurrently or retrospectively, a medical record in order to determine the quality of care rendered. Failure to pass such screens typically results in referral to a physician utilization manager, who reviews the record and takes appropriate action. Appropriate in this context could translate to preauthorization of admission, profiling of the physician, and possibly expulsion of the provider from the network.

Baschon (1990) states that trending of quality screen problems provides useful information that allows management to take actions to avoid such problems in the future. An excellent example of her assertion is documented in Quantum: Annual Report

to Providers, April 1, 1990-March 31, 1991 (TMF, 1991), furnished Texas CHAMPUS providers by the Texas Medical Foundation, the peer review organization contracted to perform UM for CHAMPUS inpatient care rendered in the state of Texas. This report identifies total number of CHAMPUS cases reviewed in 1991, initial failures, and confirmed problems and furnishes a breakout of the most common failures by DRG.

In 1991, the Texas Medical Foundation (1991) conducted quality screens on 2,703 cases. Of those cases reviewed, 84% (2,288) failed initial screens and received physician review, which indicates that only 4% of the total failures evidenced quality problems. Feedback on all quality of care screen failures was forwarded to the responsible providers and aggregated and reported to all providers as well.

Numerous informative articles, many of which are cited throughout this paper, report on the ability of UM to control costs. However, Thomas Wickizer, Ph.D., and his associates, John R. C. Wheeler, Ph.D., and Paul J. Feldstein, Ph.D., were the first to publish articles that applied scientific rigor to the study of the impact of utilization management on resource consumption. Their studies, first published in 1988 and cited in most of the comprehensive articles written on this topic, serve as testimony to their value to this field of study and are synopsized below.

Feldstein et al. (1988) published the first of these

scientific studies in an effort to document the true effect of UM on controlling costs. The authors analyzed insurance claims data on 222 insured groups of employees from 1984 and 1985 to evaluate the effects of UM programs instituted by a large private insurance carrier. Specifically, each case subject to UM was submitted to preadmission authorization, on site, and concurrent review. Twenty-six variables were regressed to control for the effects of employee characteristics, market area factors, and plan benefit features for all cases.

Comparing admissions, bed days, and costs of groups that operated with and without UM programs, Feldstein et al. (1988) found that plans operating under a utilization management philosophy experienced a decrease in admissions of 12.3% ($p < .001$), a reduction in bed days of 8.0% ($p < .05$), a diminution of hospital inpatient expenditures of 11.9% ($p < .05$), a curtailment of ancillary expenditures of 14.8% ($p < .001$), and a reduction in total expenditures per patient of 8.3% ($p < .05$). Feldstein et al. also determined that utilization management apparently has a one-time effect of reducing expenditures, one that continues but does not increase or decrease over time. Although the results of this study did not take into consideration cost shifting in the form of co-payments and deductibles to patients, it did statistically prove that the potential for utilization management to reduce hospital resource consumption exists.

In 1989, Wickizer, Wheeler, and Feldstein collaborated again to conduct multivariate analysis of the effect of utilization management on resource consumption over time and to assess whether or not self-selection affected utilization and expenditures. Further, portions of data from the original study were augmented by an additional year of data to allow for the effects of geographical dispersion on utilization management. In the end, the researchers studied 223 insured groups over a three-year period, creating a time series/cross-section data base of 1,848 complete quarterly observations.

Wickizer et al. (1989) documented in this study that admissions were reduced by 13% ($p < .001$) and bed days were decreased by 11% ($p < .001$). Hospital "routine expenditures" (room and board) were found to have been lowered $3.15 per insured person per quarter, or $12.60 per insured per year. Ancillary services expenditures per insured dropped by $6.16 per quarter, or $24.64 annually. Total expenditures per insured fell by almost $14 per quarter, or $56 annually. This final figure seems particularly important since it captures whatever outpatient substitution may have occurred as a result of utilization management of inpatient resources.

Prompted by mixed findings of studies on the effect of utilization review conducted in the 1970s, Wheeler and Wickizer combined efforts in 1990 to analyze the same 223 insured groups in

order to determine the impact of market-related conditions on utilization management effectiveness. Average size for each group in the study was approximately 1,500 insured persons, comprised of 660 employees and 840 dependents.

Overall, Wheeler and Wickizer (1990) found that utilization management efforts were most effective in markets with low health maintenance organization enrollment, high admissions per capita, and low occupancy rates. They found groups operating under utilization review (management) with low admission rates had 2.52 fewer admissions per 1,000 members than those operating without such controls ($p < .001$). This same group experienced 12.30 fewer patient days per 1,000 members ($p < .1$), reduced inpatient expenditures by 8.96% ($p < .01$), and decreased total expenditures by 14.16% ($p < .01$).

Groups operating under utilization management controls but with high admission rates experienced 1.71 fewer admissions per 1,000 members than did the groups applying the same principles with low admission rates ($p < .1$). These same groups had 4.23 fewer admissions than similar groups operating without utilization management ($p < .001$) (Wheeler & Wickizer, 1990).

Wheeler and Wickizer (1990) also determined that, in geographical areas where surgeons are more numerous, utilization management can be of additional value. For example, in markets where the number of surgical specialists per capita is high,

utilization review (management) is significantly related to reduced inpatient expenditures (12.93%; $p < .01$) and total expenditures (11.00%; $p < .1$).

Finally, Wickizer (1991) studied the effects of utilization management on different medical specialties. He determined that the greatest savings impact ($17.25 per insured per year; $p < .07$) occurred with surgical specialties. Also, substantial savings were found to exist in mental healthcare, but a large standard error estimate resulted in the inability to prove statistical significance. Statistically significant savings on medical services existed but were small in comparison to those experienced in the surgical specialties.

The work of these experts appears to identify tremendous benefits for the managers of the military medical system. In his memorandum for the Secretaries of the military departments, Assistant Secretary of Defense (Health Affairs) Mendez (1992) clearly states that his plan is for the military health services system's quality assessment and criteria to become more analogous or identical to those of the civilian sector. This implies adoption of utilization management within the walls of the direct care system.

The savings which could accrue to military healthcare organizations operating under utilization management will require the same thoughtful analysis and integration efforts as those

undertaken by organizational leaders of civilian medical institutions. Given that the findings of Feldstein et al. (1988); Wickizer et al. (1989); Wheeler and Wickizer (1990); and Wickizer (1991) are accurate, once this philosophical approach is adopted, careful analysis to tailor the utilization management effort to the unique demands of each military hospital is critical.

Once again, this topic (utilization management) is already relevant to managers of today's congressionally scrutinized and financially constrained military health system. Although Slackman (1991) cites some potential cost-containment gains and valuable lessons learned by catchment area management test sites, his opinion is that even the managed care test sites could do more to assure the prudent use of resources by being more attentive to physician practice patterns.

Components of Utilization Management

The key for managers of the Department of Defense medical system seems to be to design an effective utilization management process that will maximize the benefits identified by Wickizer et al. (1989). Before that can be accomplished, these managers, regardless of discipline or background, need a fundamental understanding of the components of utilization management.

Utilization review programs of the 1970s and the cost savings which were believed by many to have accrued through the use of professional standards review organizations laid the foundation

for the components of current utilization management programs (Baschon, 1990; Becker, 1990; Wickizer et al., 1989). Baschon (1990) and Snyder (1989) identify those components which have evolved into "industry standards." These components are: preadmission review, admission review, second surgical opinions, concurrent review, discharge planning, individual case management, and retrospective review.

Snyder (1989) goes on to state that a given utilization management program need not incorporate every component in order to be effective. He does state, however, that, in his opinion, each plan should at least include precertification (preadmission) review, admission review, and concurrent review. Snyder's opinion has been to some extent verified by the studies conducted by Feldstein et al. (1988), Wheeler and Wickizer (1990), Wickizer (1991), and Wickizer et al., (1989), which were accomplished on groups using only two of these three particular components.

Preadmission Review/Certification

Preadmission review is "the review and assessment of the medical necessity and appropriateness of elective hospitalizations before the hospitalization has occurred" (Snyder, 1989, p. 516). This process is typically accomplished by medical personnel, either physicians or physicians and other medically trained personnel in conjunction, depending upon a given health plan's structure (Nyman, Feldman, Shapiro, Grogan, & Link, 1990; Payne,

1987b; Wickizer et al., 1989).

Preadmission review can be accomplished either on site or in a satellite off-campus facility. Under either scenario, an admitting physician typically submits a written application for admission or requests permission to admit via telephone. The physician describes the patient's condition and planned course of treatment. From that point, a preadmission review panel makes a determination and notifies the patient, the physician, and the hospital of its decision regarding the appropriateness of hospitalization and the allowable length of stay (Wickizer et al., 1989).

Research indicates that precertification has been accepted as a standard of practice across numerous health plans, with indications of growing acceptance. Payne (1987b) reports that, in 1986, approximately 35% of the corporations he surveyed included precertification in their cost-containment arsenal. An additional 16% of those corporations had plans to begin requiring precertification in the immediate future. Graugnard (1987) reports that growing acceptance of precertification by preferred provider organizations (PPOs) was found in this same period. Becker (1990) found that the percentage of employers requiring precertification was up to 60% by 1990 while Wickizer (1991) cites 65%.

Graugnard (1987) states that preadmission certification is

the component of utilization management that produces the most immediate economy by ensuring appropriateness of care and eliminating unnecessary care. Baschon (1990) agrees and comments that such a program offers an opportunity to maximize hospital efficiency, improve reimbursements, and provide quality patient care. She also contends that, if properly structured and marketed, preadmission certification is viewed as beneficial by patients and physicians alike. Since preauthorization is the first step in the utilization management chain, Baschon further states that it can serve as a starting point for other UM components, such as case management and discharge planning.

No literature was found that isolated and reported on the impact of precertification alone. However, there are numerous examples of cost savings directly attributed to the precertification process accomplished in conjunction with other UM components. For instance, Graugnard (1987) reports that the El Camino-Hewlett Packard PPO achieved a 20% overall cost reduction and a 12% decrease in bed days on the strength of precertification and concurrent review. She also reports an 11.5% decrease in bed days under similar circumstances experienced by the Dade County School Board.

Feldstein et al. (1988) and Wickizer et al. (1989) also have documented examples of savings under programs that use preadmission certification in conjunction with concurrent review.

Feldstein et al. and Wickizer et al. demonstrated that admissions were reduced from a low of 12.3% to a high of 15.0%. Bed days declined from 8% to 11%. Total medical expenditure reductions went from a low of 6% to a high of 30% (in groups that had historically experienced high admission rates). Wickizer et al. (1989) also documented a 9% decrease in ancillary service costs attributable to precertification and concurrent review.

Although precertification and other components of UM have generally become accepted as ways of reducing expenditures, there are caveats to be considered. For example, Graugnard (1987) points out that decreasing admissions in PPOs resulted in a 47% increase in ambulatory surgery in the Dade County School Board experience and a 152% increase in the El Camino project. Outpatient volume in general also rose 18.3% in the Dade County School Board program. Secondly, although Wickizer et al. (1989) have demonstrated overall cost savings associated with precertification, the potential problems associated with a shift in patient flow and treatment patterns deserve serious consideration by medical planners.

Finally, Wickizer's (1991) assertions that these savings are one-time reductions and have little effect on growth in utilization and expenditures over time warrant consideration when building a UM program. This apparent sentinel effect could impact long-term medical executive management expectations with serious

resource implications. Specifically, management needs to consider how many resources need to be invested to obtain and sustain the desired results as well as continually seek program improvements.

Admission Review

Baschon (1990) and Snyder (1989) define admission review as review of the medical necessity and appropriateness of nonelective hospital admissions which occur within a certain period of time after admission (usually 24 to 48 hours). Review is based on admitting information documented in the medical record in a manner very similar to precertification approval (Baschon, 1990). LeBrun and Keener (1988) claim that the key benefit of admission review lies in an organization's ability to identify and react quickly to potential high dollar catastrophic cases.

Baschon (1990) states that admission review is often used in conjunction with precertification in order to quickly verify accuracy of precertification information or to collect and analyze information on patients admitted after "normal duty hours." She also states that some hospitals use admission review programs in lieu of precertification programs, but she expresses her opinion that this is not sound financial practice.

Baschon (1990) cites several problems associated with conducting admission review versus precertification. First, the organization loses the opportunity to determine, before treatment begins, whether or not the admission is medically necessary or if

ambulatory-based care would have been more appropriate. Second, reimbursement for treatment rendered during the time admission review is being conducted is at risk due to failure to meet a payer's criteria for admission. Third, failure to coordinate necessary ancillary services testing results in wasted resources and in some cases reduces reimbursement by the cost of the ancillary services provided.

Second Surgical Opinions

Second surgical opinion programs require patients to receive a second consulting opinion before undergoing elective surgical procedures (Snyder, 1989). Cost of the second opinion is typically absorbed by the benefit plan, and the patient usually retains the decision-making authority to either have or forego the operation. Nyman et al. (1990) identify early successes with this process, citing Massachusett's 20% reduction in procedures performed by requiring 100% review of cases submitted for payment to Medicaid in 1982 as one example.

This practice apparently flourished for the next several years, as evidenced by Payne's (1987b) report that second surgical opinions comprised the most widely accepted and practiced medical cost-containment measure used by corporations in 1986. By 1987, however, opinion as to the cost effectiveness of conducting second surgical opinions seems to have changed. This "change" is evidenced by Donahue and O'Brien (1987), who recommend changing

100% review of specified admissions to focusing on samples of those same admissions. The time savings from sampling, they say, should be invested in other regional high cost or high volume procedures to allow further ongoing cost-avoidance initiatives.

Another plausible explanation for this change in opinion as to the value of second surgical opinions may be a sentinel effect which results from physicians knowing that their recommendation for surgery is going to be reviewed by another surgeon as well as the patient's insurance company. This would be consistent with the finding published by Feldstein et al. (1988) that utilization management efforts offer a one-time savings.

A final reason for this emphasis to have waned might be just the opposite. Perhaps second surgical opinion programs and their overhead failed to amortize and were simply abandoned. For whatever reason, research evinced no recent or current emphasis for managed care plans to specifically require second surgical opinions. It is also worthy of note that second surgical opinions are not part of Assistant Secretary of Defense (Health Affairs) Mendez' (1992) memorandum on implementation of the coordinated care program or the United States Air Force Surgeon General's (1992) Managed Care Plan.

Concurrent Review

Concurrent review (sometimes called continued stay review) is conducted while the patient is on inpatient status to ensure that

a hospital remains the most appropriate setting for the care being provided (Baschon, 1990; Snyder, 1989). This task is typically performed by nurses. Review is done on a cyclical basis of three to five days, but, according to Baschon (1990), the process should be flexible enough to allow the utilization manager to use experientially based judgment. Physician interface and input are important in this process of reviewing cycles as well, particularly with nonspecific diagnoses.

Questions the "concurrent reviewer" asks during the review process can have a monumental impact on how well this program works. Baschon (1990) lists the following pertinent questions in her book, The Complete Utilization Management Handbook:

1. Does the patient still require acute care?
2. Have there been any delays in service?
3. Have all tests been appropriate?
4. Have there been complications? and, if so, were they handled appropriately?
5. Does the documentation address all abnormal or unusual complications or occurrences?
6. Have abnormal results of lab work or procedures been adequately documented?
7. Are unrelated conditions which do not require intervention been evaluated or treated?
8. Are there discharge planning needs which have not been addressed?

Baschon (1990) states that, if an answer to any of the above questions indicates that a potential problem exists, these further actions should be taken:

1. Notification of and resolution with potentially affected/involved departments/persons, such as ancillary services, nursing, attending physician, administration, and discharge planner, should take place.

2. Referral should be made to physician advisor, UM Committee, and/or appropriate hospital or medical staff committee for assistance.

Concurrent or continued stay review is effective in conserving resources by ensuring that the patient is given care in a manner as close as possible to the way the episode was planned during precertification or admission review. It also allows for rapid update of the treatment plan, when necessary, and continued monitoring of the new plan. Baschon (1990) states that additional trend analysis made possible through concurrent review can aid in identification and resolution of systematic problems which occur in the medical treatment facility as well.

Discharge Planning

Discharge planning is the process of assessing a patient's needs for medically appropriate treatment after hospitalization and effecting an appropriate and timely discharge (Snyder, 1989). According to Kongstvedt (1989), this process should start either

during precertification or immediately upon admission.

The discharge plan should be a collaborative effort that begins with the admitting physician and the utilization management nurse. Kongstvedt (1988) states that issues such as the length of time the patient is to be hospitalized, the expected outcome, the requirement for special medical treatments upon discharge, and other support the patient may require are primary topics of concern. He points out that keeping the patient's family in the information and planning loop is an important but often overlooked aspect of discharge planning.

According to the United States Air Force Office of the Surgeon General (no date), useful input may be derived from ancillary services as well when formulating a discharge plan. Wilford Hall provides a good example of this. At WHMC, discharge planning incorporates physical and occupational therapy, nutritional medicine, social work services, chaplain consultation, physician and nurse assessments, and the health benefits function. Discharge planners also conduct interviews to screen patient behavior patterns in an effort to identify any educational programs that might preclude readmission.

Case Management

Case management is

> an organized effort to identify patients who have the potential to be high cost, long stay, and/or complicated discharge planning cases as early as possible; to locate and assess medically appropriate alternative settings

> for these patients; and to manage their health care benefits as cost effectively as possible. (Snyder, 1989, p. 516)

According to Henderson and Collard (1988), the focus of case management is on

> mobilizing resources to meet individual patients' needs and the needs of their families by addressing three aspects of patient care management: how to obtain patient care that is of lower cost but of comparable or superior quality than [sic] care in the traditional hospital setting; how best to coordinate the patient's care among the family members and other providers, institutions and agencies that may be involved; and how the patient's existing benefits plan can be used to cover needed services. (p. 2)

Benefits that accrue to practitioners of case management and their patients are plentiful. LeBrun and Keener (1988) point out that employers and insurance companies are big financial winners under this concept, saving up to 50% of expenses in extreme cases. Becker (1990) reports that the patient also benefits from case management by receiving care in a more comfortable and safer environment with fewer social complications. Henderson and Collard (1988) sum up the advantages of case management by asserting that it "rationalizes instead of rations the delivery of medical care rendered the patient" (p. 4).

Retrospective Review

A final and less publicized component of utilization management is retrospective or back-end review. Also based on medical records, Baschon (1990) states that the purpose of retrospective review is to confirm trends identified during concurrent review by

collecting and analyzing physician practice patterns that might result in overutilization of resources or quality of care problems.

There are both internal and external applications for this process. Baschon (1990) says that practice patterns for preselected diagnoses are typically conducted internally on a quarterly basis to ensure that:

1. Admissions were medically necessary.
2. Care provided was appropriate.
3. Case management/discharge planning was applied in a timely manner.
4. No quality problems arose.
5. No delays in service occurred.
6. Documentation addressed all aspects of care; abnormal values were addressed.
7. Work-ups not directly related to the admission were not included unless absolutely necessary.

External applications have a potentially significant financial impact on hospitals as well. Johnson (1991) states that, out of 50 hospitals audited in California, there was an average loss of 4% of gross managed care revenues attributable to failure to apply retrospective review principles to contracted providers. Eubanks (1991) documents the same type of experience by reporting how Blue Cross and Blue Shield of Pennsylvania

recouped $1.2 million in the third quarter of 1990 by exercising these same principles.

Screening Criteria

Although not a classical component of utilization management, screening criteria are the foundation upon which utilization reviews are based. Criteria facilitate all types of review and comprise a fundamental tool that pervades the entire utilization management process. Baschon (1990) defines screening criteria as a set of clinical data elements that provide an objective means to identify cases where a question may arise regarding the necessity or the quality of care rendered. Their value, she states, lies in their ability to allow reviewers to evaluate such cases by preestablished criteria and to refer those that do not meet organizational standards to the appropriate level for review and action.

Methods of review that employ implicit criteria use physicians to evaluate the entire patient record and make a summary judgement as to whether or not the care rendered was acceptable (Payne, 1987b). Payne (1987b) states that proponents of this methodology consider it to be more valid than explicit criteria because the reviewer has greater clinical expertise and the entire medical record is available to take into account all of the relevant factors influencing clinical actions taken or foregone.

On the other hand, Morehead (1976) points out that only a limited number of physicians can accomplish this task in a constructive and analytical fashion. He also states that the success of implicit criteria methods depends on careful selection and training of reviewers as well as careful structuring of the review process and resolution methods for the inevitable event of differing opinions among reviewers. The question of reliability and validity of findings and the expense of having numerous physician reviewers are the main problems associated with the implicit review method (Payne, 1987b).

Explicit review methodologies combine the use of accepted lists of predetermined criteria with the utilization of nonphysician reviewers who screen the medical records in order to determine whether or not care rendered has met those criteria (Noren, 1982). Those cases failing initial criteria screens are then referred to a physician for further review and determination. Payne (1987b) lists some disadvantages as well as numerous advantages associated with the use of explicit criteria. Disadvantages associated with the use of explicit criteria are primarily time and cost associated with criteria development. The advantages include:

1. Standardization and transferability.
2. Application by nonphysician reviewers.
3. Consistency.

4. Ease of updating compared to very specific protocols.

Payne (1987b) further divides explicit criteria methodologies into three subcategories:

1. Intensity of Service, Severity of Illness, and Discharge Screens Appropriateness (ISD-A).

2. Appropriateness Evaluation Protocols (AEP).

3. Standardized Medreview Instrument (SMI).

According to Payne (1987b), the ISD-A system was developed by InterQual, Inc., in 1978 and has been revised several times. (InterQual is also the vendor whose criteria have been selected by the Department of Defense for the regional CHAMPUS utilization management contract ["TMF and 1992-93," 1992].) ISD-A uses a generic criteria list applied to all medical and surgical patients as well as 12 system-specific criteria to be applied as needed. In order to pass review, any patient admitted must meet one of the Severity of Illness or the Intensity of Service screens upon admission. Patients must then meet both screens 24 hours after admission (Payne, 1987b).

The AEP, modeled after the ISD-A, also includes generic and system-specific criteria. However, under this system, the patient need meet only one of 16 criteria for admission and one of 26 criteria for continued stay (Payne, 1987b).

The SMI methodology uses 117 admission criteria. If an admission meets one of these criteria, it is considered

appropriate. Questions as to the appropriate length of stay are resolved by meeting one of the 30 level-of-care criteria and one of the 26 continued-stay criteria (Payne, 1987b).

At the heart of adoption and enforcement of clinical criteria lies the issue of changing physician practice patterns (Payne, 1987b). Nyman et al. (1990) state that this is due to the fact that, in their continuum of roles from gatekeeper to surgical subspecialist, physicians are positioned at the critical points in the decision process for any cost-reduction efforts. Hence, it follows that the success of implementing clinical criteria will most likely be correlated to physician acceptance and compliance. In order for that to happen, physician input and support must be real and be integrated from the ground floor up (Griffith, 1987; Nyman et al., 1990; Payne, 1987b).

Purpose

The purpose of this graduate management project was to determine the potential benefits of utilization management for Wilford Hall U.S. Air Force Medical Center and to devise and recommend an effective utilization management approach based upon the literature and information gathered from successful existing military and civilian utilization management programs.

CHAPTER 2

METHOD AND PROCEDURES

The objective of this analysis was to determine a potential range of impact which internal utilization management as described by Feldstein et al. (1988) and Wickizer et al. (1989), would have on Wilford Hall Medical Center. To accomplish this task, the workload reductions and concomitant savings from the Feldstein et al. and the Wickizer et al. study were applied to WHMC's Fiscal Year 1991 wordload and expense data. Potential savings in three separate ranges were extrapolated to provide executive managers the opportunity to consider the potential impact which internal utilization management would have based on low, high, and median savings scenarios.

This approach was chosen based upon the statements of Baschon (1990) and Feldstein et al. (1988) that utilization management has a one-time savings effect--the sentinel effect. If their conclusions are true, then Wilford Hall may have already achieved some degree of savings based upon the education and training already provided to some of the staff and resident physicians. Physician motivation may also impact the effect which UM could have. Military physicians, lacking the financial motivation of their civilian counterparts, may not be as quick to admit patients. If this is true, UM may have a diminished effect of reducing resource consumption.

Recognizing the possibility of a sentinel effect, WHMC's potential utilization management-induced reductions in workload and cost savings were extrapolated into three separate ranges. The lowest estimated savings (3%) would allow for the greatest sentinel effect. The median estimates (6%) would allow for a moderate impact, while the largest estimates (11%-13%) would represent potential savings which might accrue to Wilford Hall based on the assumption that UM would exhibit no meaningful sentinel effect.

Workload and expense data were taken from the fourth quarter, Fiscal Year 1991, Medical Expense Report (PCN1102F11) of the Medical Expense and Performance Reporting System (MEPRS) (Arthur Young, Inc., 1992). This report is standardized throughout the military healthcare system; consequently, the methodology can be easily duplicated.

Using MEPRS data presents other advantages. It provides a realistic picture of actual operational costs incurred as military salaries are included and overhead costs are assigned to final output "production centers." Secondly, the MEPRS three-letter break-out codes, such as AAA for Internal Medicine and ABA for General Surgery, facilitate analysis of UM influence at the department, the division, and the facility level for each of the five separate categories of savings identified by Feldstein et al. (1988).

CHAPTER 3

RESULTS

Source and Categorization of Data

As stated above, workload and expense data were taken from the MEPRS Medical Expense Report, Fourth Quarter, Fiscal Year 1991, for Wilford Hall Medical Center (see Appendix). Feldstein et al. (1988) and Wickizer et al. (1989) report statistically significant findings on the effect of utilization management in five separate categories: (1) admissions, (2) bed days, (3) inpatient expenses, (4) ancillary services expenses, and (5) total expenses. Savings in each of these categories are reported separately.

Some of these measures are, in fact, interdependent. For example, reduced admissions would obviously have an impact on total number of bed days, inpatient expenses, and inpatient ancillary services expenses. Therefore, savings estimated for each of the separate measures should not be added. They are reported simply to reflect the effects of utilization management from different perspectives.

For the purpose of this analysis, these five measures were separated into two categories: (1) final and (2) intermediate products. Admissions and total expenses were designated as final products. Bed days, inpatient expenses, and ancillary services expenses were categorized as intermediate products.

Final Products

Admissions

Feldstein et al. (1988) and Wickizer et al. (1989) report that utilization management had reduced admissions in the groups they analyzed by 12.8% ($p < .001$) and 13.0% ($p < .001$), respectively. For this analysis, the Total Dispositions figure from Part 1 of the Medical Expense Report for the fourth quarter of Fiscal Year 1991 was used to extrapolate potential WHMC savings.

In Fiscal Year 1991, Wilford Hall admitted 27,113 patients. WHMC utilization management efforts identical to the one described by Feldstein et al. (1988) and Wickizer et al. (1989) would have resulted in admission reductions ranging from a low of 813 to a high of 3,524. Related cost savings would have ranged from $4,014,594 to $17,667,944 based upon WHMC's average MEPRS cost per admission of $4,938. More detailed results are reported in Table 1.

Total Expenses

Feldstein et al. (1988) state that utilization management resulted in a 8.3% reduction in total expenses ($p < .05$) in their study. Total expenses for Wilford Hall Medical Center were derived by adding Total Expenses from Section 1, Inpatient Services, and Total Expenses from Section 2, Ambulatory Services, of Part 1 of the Medical Expense Report for the fourth quarter of

Fiscal Year 1991. Projecting Feldstein et al.'s findings to WHMC, it was calculated that this facility would save between $6,482,598 and $23,769,525 through UM. Detailed results of this analysis are reported in Table 1.

Evaluation

The importance of identifying admissions and total expenses as described by Feldstein et al. (1988) and Wickizer et al. (1989) as final products is to allow executive management to focus their attention on bottom line indicators. Admissions and subsequent discharges comprise what can best be described as cases, each of which represents individual sum totals of the resources (money, manpower, equipment, and facilities) consumed in order to render care to each patient. Since the DRG system mandated under the Defense Authorization Act of 1988 allocates resources based upon the relative weight of each case and not the resources consumed, admissions must be carefully managed.

Total expenses represents the financial bottom line, reflecting the cost of all treatment rendered. Both Feldstein et al. (1988) and Wickizer et al. (1989) favor this particular measure because it includes the costs of UM-related shifts in services to the ambulatory arena as well as the costs associated with implementing utilization management. Total expenses is the ultimate "final" output product!

Intermediate Products

Bed Days

Feldstein et al. (1988) report an 8% reduction in bed days ($p < .05$) in the groups studied as a direct result of utilization management. Wickizer et al. (1989) report an 11% reduction ($p < .001$) in their study. For this analysis, WHMC occupied bed days data were taken from the Total column of Part 1 of the Medical Expense Report for the fourth quarter of Fiscal Year 1991. Given WHMC's 206,127 Fiscal Year 1991 bed days, projected bed day reductions would range from 6,184 to 22,674. Concomitant cost savings based on MEPRS data would range from $4,016,446 to $14,726,536. More detailed results are reported in Table 1.

Inpatient Expenses

Feldstein et al. (1988) state that inpatient expenses of the groups studied fell by 11.9% ($p < .05$) as a result of utilization management. WHMC inpatient expenses for this analysis were taken from the Total Expenses column of Section 1, Inpatient Services, of Part 1, Medical Expense Report, for the fourth quarter of Fiscal Year 1991. Wilford Hall projected savings would range from $4,016,347 to $17,364,007. Detailed results are reported in Table 1.

Ancillary Services Expenses

Utilization management is reported by Feldstein et al. (1988) to have reduced ancillary services expenses by 14.8% ($p < .001$) in

the groups studied. For the purposes of this analysis, ancillary services expenses for WHMC were taken from the Total Expenses column of Section 4, Ancillary Services, of Part 1, Medical Expense Report, for the fourth quarter of Fiscal Year 1991. Potential cost reductions were found to range from $3,220,092 to $15,450,624. Results are more fully reported in Table 1.

Evaluation

Although secondary in important to final output products, the three intermediate products, (1) bed days, (2) inpatient expenses, and (3) ancillary services expenses, can yield important management information. Bed days data can produce important feedback regarding the effectiveness of several of the UM components. For example, concurrent review, case management, and discharge planning are all designed to reduce bed days. Furthermore, MEPRS' three-letter break-out code for costs per bed day naturally lends itself to identification of those particular types of bed days with higher costs which would become likely targets of opportunity.

Inpatient expenses and ancillary services expenses figures can be used to compare the effect of utilization management efforts from the previous year once the analyst adjusts for factors such as increase or decrease in staffing, mission changes, etc.

CHAPTER 4

DISCUSSION

Implications of Findings

The issue facing Wilford Hall Medical Center regarding implementation of internal utilization management is not whether or not to start. The issue is: what to do, how to start, and where to begin. Assistant Secretary of Defense (Health Affairs) Mendez' (1992) quality management policy already states that military medical treatment facilities will begin to implement utilization management. Unless that policy is reversed, change is imminent. The reality that the CHAMPUS inpatient workload across the Continental United States (which accounts for only 18% of total military health services system admissions) is already reaping the benefits of utilization management leads one to believe that implementation of plans to pursue the same economies for the remaining 82% of admisisons must closely follow. The fact that the contract (MDA906-91-R-0008) (CHAMPUS, 1992) awarded to the TMF and other regional vendors mentions the possibility that they may accomplish UM inside the walls of DOD MTFs leaves little doubt that Congress and the Assistant Secretary of Defense (Health Affairs) intend to find similar economies in the almost $11 billion direct care system. Finally, the findings documenting the possibility to recoup between approximately $6.5 to $23.8 million per year at Wilford Hall would seem to solidify the need to start

as soon as possible.

A decision to proceed with the process to implement internal utilization management will change the fundamental nature of the way care is delivered at Wilford Hall. Resistance to change will have to be managed. Learning curves will provide significant staff frustration and setbacks will very likely occur. Before beginning, it seems imperative that executive management resolve that benefits are achievable and worthy of the disruption certain to occur as a result of changing "the system." Once the decision is made to proceed, internal utilization management should be included in WHMC's strategic plan and be pursued within the current "Quality Air Force" concept.

Extent of Utilization Management Needed

Once committed to proceed with some type of utilization management, the first question seems to be: How much utilization management is needed to achieve the best possible return on investment? The answer lies in which components best apply to this facility. This writer believes that those components are preadmission certification, concurrent review, case management, discharge planning, and retrospective review.

Preadmission certification offers significant savings opportunities. First, every admission avoided will result in an average cost avoidance (chance to reinvest) of $4,938. Second, a properly structured and accurately focused precertification

process can act as a trigger point for other UM components, such as case management and discharge planning, to begin.

The more advance knowledge a facility has of a specific patient's needs, the more time it has to plan for a "quality" episode of care for the patient at reduced costs. For example, reduced admissions and decreased bed days which accrue as a result of preadmission certification allow a facility to admit more "appropriate" patients. Once those patients are inside the facility, concurrent review, case management, and discharge planning are designed to ensure that each patient receives the "appropriate" level of care. Lengths of stay are typically reduced and cost of providing that care declines as well.

The advance testing inherent to preadmission certification may also save ancillary services costs. Adoption of a set of criteria, whether bought commercially or developed internally, has the potential to eliminate duplicate and unnecessary tests, both of which Dr. C. E. Jarret (1992), Director of Utilization Management/Quality Assurance, Baylor Medical Center, states can occur for multiple reasons.

Concurrent review efforts focus on minimizing the number of days patients inappropriately stay in the acute care setting. Successful application is achieved by establishing an effective treatment plan, monitoring patient progress, and revising that plan to ensure that the patient continually receives the

appropriate level of care. Once concurrent review identifies the need to deviate from an original treatment plan, action is taken to minimize or eliminate unnecessary delays. Concurrent review collects and analyzes information as to the cause of such deviations in order to identify system problems and resolve the underlying causes. Concurrent review also plays an integral role in ongoing quality assurance programs by monitoring and reporting on preselected "indicators of care."

Case management and discharge planning also focus on minimizing "inappropriate" levels of care. Effective application of these two UM components concentrates on placing the individual patient in the most beneficial and most cost-effective environment, to include inpatient and follow-up ambulatory care. At Wilford Hall, every unnecessary bed day eliminated represents a cost avoidance of $649.49 and an opportunity to care for another patient. While cost avoidance is important from the financial standpoint, research (e.g., Brennan et al., 1991; Noren, 1982) indicates that getting the patient into familiar surroundings with appropriate medical and social support is beneficial as well.

Retrospective review evaluates healthcare outcomes as well as effectiveness of the components of utilization management. Review and analysis of positive and negative treatment outcomes provides "management" the opportunity to plan rational, multidisciplinary action to resolve problems or continuously improve "the process."

Starting Point

Implementing utilization management requires redesigning patient care processes from beginning to end. This writer feels that this should be done on a relatively small scale aimed at particular services where savings can reasonably be expected to occur. Medical leadership of these changes is an important consideration as well. Given Wickizer's (1991) assertion that the largest amounts of savings occur in the surgical specialties, this appears to be the most likely place to start.

In Fiscal Year 1991, General Surgery (MEPRS code: ABA) had the highest number of dispositions (3,033) and occupied bed days (15,559) of all the surgical services at WHMC. Average cost per disposition was $2,933. This high volume of both admissions and bed days could be a fruitful ground for savings.

Orthopedics (MEPRS code: AEA) had the second highest number of admissions (1,896) and bed days (11,392) for surgical services at WHMC in Fiscal Year 1991. Average cost per disposition was $4,377, much nearer WHMC's "average cost per disposition." This service has also been selected as a Project Management test site tasked with reevaluating processes that begin with the decision to admit through follow-up appointments. Potential savings through admission avoidance and bed day reduction combined with formally endowed authority to redesign the work flow would make Orthopedics a strong candidate for alpha testing of UM.

Cardiovascular and Thoracic Surgery (MEPRS code: ABB) admitted 323 patients last year, resulting in 3,886 bed days and an average cost per disposition of $15,520. This service also performs three procedures which, under CHAMPUS utilization management contracts, require precertification authorization. Lower volume, higher cost admissions combined with the probable need for continued care make this an excellent center for potential reduction of bed days via strong and integrated case management and discharge planning. Alpha testing here could investigate the entire perioperative (preoperative, operative, and postoperative) process. It might also present an opportunity to expand utilization management concepts into the "medicine" side of operations by linking with Internal Medicine (MEPRS code: AAA), Cardiology (MEPRS code: AAB), and Coronary Care Unit (MEPRS code: AAC).

It would be best to run alpha testing in at least two sites. The ability of the staff in one site to discuss successes and problems with the staff of another clinical service experiencing the same set of challenges will offer the opportunity to reap synergistic resolutions.

Depending upon the willingness of the potential candidates, it would be best to start in Orthopedics, concentrating on preadmission authorization and concurrent review while also working to establish effective case management and discharge

planning for orthopedic patients. Given the same willingness to participate, the second alpha test site should be established in Cardiovascular and Thorácic Surgery (to run concurrently with the Orthopedics test). This particular site should concentrate more heavily on case management and discharge planning while working on preauthorization and concurrent review issues. Regularly scheduled meetings should be held between the staffs of the two test sites to share successes, failures, insights, and ideas.

As soon as feasible, coordination with the Directorate of Education should be effected in order to incorporate utilization management training into the medical residency training program. Again, the process should start small and export the curriculum methodically. Once UM training is fully implemented in all WHMC residency training programs, the impact will begin to be felt Air Force-wide.

Implementation Options

There are three basic options by which to implement utilization management at WHMC: (1) buy it, (2) create it inhouse, and (3) combine options one and two. Each option has its own strengths and weaknesses, which seem to center on the issues of control and flexibility.

Purchasing utilization management services via contract is easy and the precedent exists. Wording of the current regional CHAMPUS (1992) inpatient utilization management contracts awarded

May 1, 1992, may present an opportunity for modification and implementation. The primary advantages of contracting UM would be the rapidity of implementation and the inclusion of training for the WHMC provider and support staffs. However, some negatives exist as well.

The main disadvantage of contracting UM would be loss of control. Once the terms of a contract were in effect, control of the processes that determine a large portion of physician practice patterns would rest outside Wilford Hall. That control could not be regained without devoting time and resources to modify the agreement. Since this concept is new, the opportunities for such revisions may be plentiful.

A second disadvantage of contracting a package of utilization management would be the reduction in flexibility to tailor and adjust the program as WHMC adjusted to the concept. Unique applications of military medicine might also require additional flexibility. For example, a single airman with the measles most likely would require a treatment plan different from that of a nonmilitary individual treated in the civilian sector.

WHMC could negotiate a contract to minimize loss of control and flexibility. However, it seems very likely that, as military facilities continue to apply the concepts of utilization management, considerable MTF control and flexibility will be needed and desired. Contracting full-blown UM would not be the

best course of action.

The second option, to accomplish internal utilization management with WHMC staff (military and DOD-employed civilians) offers opportunities to resolve many of the concerns over loss of control and flexibility involved in option one. However, thus far, MTF personnel have had little or no experience in this area. Education and training could help to eliminate most of the knowledge deficit, but self-education requires a front-load investment of time. Moreover, even the best education does not yield the benefit of wisdom gained through experience. Mistakes and misjudgements would result in setbacks and frustration and ultimately delay WHMC's goal of receiving the benefits of an effective UM program. Although self-administered utilization management would offer the advantages of control and flexibility, this option carries unaffordable time delays as well as risking alienation of staff through undue frustration.

This writer believes that option three would provide the best implementation approach for Wilford Hall. According to several authors (e.g., Baschon, 1990; Graugnard, 1987; Nyman, 1990), physician "buy-in" is critical to the success of effective utilization management. Further, physicians are the collective group of individuals who bring expertise to the process from the quality of care and primary resource consumption perspective. Option three would provide the greatest opportunity for initial

and ongoing input. WHMC could contract with a number of vendors to help establish program guidelines and train the appropriate staff. Management consultants such as Sharon Baschon, author of A Complete Guide to Utilization Management, are plentiful and bring to the organization practical experience as well as expertise in educating others.

Professional review organizations (PROs) such as the Texas Medical Foundation offer another and, in this writer's opinion, an even better option. Training and experience expertise exists, just as in the case of a single management consultant. Moreover, PROs can furnish physician educators/trainers capable of addressing WHMC's physician concerns. Additionally, the TMF, in its role as regional contractor, is already experienced at applying InterQual criteria. If military medical treatment facilities are to "mirror" as closely as possible the civilian practice patterns, as mentioned by Assistant Secretary of Defense (Health Affairs) Mendez (1992), then it makes sense to apply the same basic criteria internally. Option three would take advantage of a portion of the benefits of contracting full-blown utilization management while simultaneously maximizing internal control and flexibility.

Education and training of WHMC professional, ancillary, and support staff will most likely be the key to successful utilization management implementation. The choices made by WHMC

executive management regarding which option to choose and how to apply that option will be critical to how well this facility transitions into the utilization management concept.

Staffing Considerations

While utilization management has been documented to reduce costs and increase the quality of care rendered to patients, it is an expensive, front-load program. Significant costs in terms of manpower, information support, and training must be paid. Staffing of the test sites will have a definite impact on the speed at which learning curves are encountered and overcome. Understaffing or taking staff "out of hide" will increase the frustration already inherent in such a large change. Given the savings potential of utilization management, ample new positions should be created and filled. The following are minimal positions recommended:

Locus of control of the utilization management program. This function needs to be independent of the clinical and the administrative departments for reasons analogous to the Area Defense Council being independent of the Staff Judge Advocate's Office. Freedom to objectively evaluate and recommend improvements necessitates that this department work for either the Commander or the Vice Commander of Wilford Hall.

Medical Director. The Medical Director should be a physician, someone who is willing and able to work with other

physicians, nurses, ancillary personnel, and support staff on a wide variety of issues. This person's main taskings will be (1) to review workload and recommend changes necessary to operate within or improve the utilization management program guidelines (as determined by executive management), (2) to decide how to proceed on cases failing criteria screens, (3) to educate and train, and (4) to facilitate transition into the new "culture." This person needs to enter into the position with credibility or be able to acquire that credibility quickly. Once training and implementation problems are under control, this person should be the focal point regarding the pursuit of new initiatives.

Nursing. According to Dr. C. E. Jarret (1992), Medical Director for Quality Assurance/Utilization Review, Baylor Medical Center, nurses are the backbone of an effective utilization management program. They are valuable educators for physicians and other nurse working on the wards. Nurses both speak the clinical language of the physician and understand important concepts of social services critical to the success of case management and discharge planning. They are by experience skilled in administrative matters as well.

Research (e.g., Baschon, 1990; Payne, 1987b) indicates that the industry standard for nurse reviewers working on the wards is 1 per 10,000 eligible beneficiaries. Baylor University Medical Center assigns one per service, which equates to 10 for 900 beds

(Jarret, 1992). WHMC should begin with double that ratio in alpha work centers in order to train additional key members for exportation to UM in beta sites.

Nurses are also critical to preadmission authorization. Baylor Medical Center uses one full-time nurse to do precertification, which equates to approximately 60 requests per day (Jarret, 1992). Dr. Jarret (1992) recommends extending coverage beyond the traditional duty day to accommodate late requests. The TMF (McCauley, 1992) uses one nurse (with backup for peak demand times) for precertification of its six-state region. Carol McCauley (1992), Director of Education, Texas Medical Foundation, states that it is important for admitting physicians to be able to accomplish precertification as quickly and effortlessly as possible. She points out that experienced nurses can also facilitate acceptance of the precertification process by training physician support staff on how to gather and report necessary information, freeing the physician to practice medicine.

Nurses accomplish back-end review as well, evaluating episodes of care based upon admission, continued stay, quality of care, and discharge criteria. The TMF uses seven full-time nurses to accomplish this for the entire region. The current goal for each reviewer using InterQual criteria is 15 cases per reviewer per day (McCauley, 1992).

Nursing resources are a critical and often scarce commodity in the hospital environment. Due to their education and experience, nurses are in demand for a variety of positions. Utilization management will compound this demand problem. Therefore, executive management needs to investigate methods by which to staff UM nursing positions while meeting other equally important demands.

Information Support

Effective utilization management will generate a great deal of valuable information--valuable, that is, if it can be captured, put in the most usable form, and analyzed and reported. WHMC does not, in any way, have this capability. This function can and must be purchased if successful implementation is to occur. Cooperative Care Solutions (CCC) is one of many such vendors that provide a package to accomplish all the information taskings this paper implies and more. CCC's particular package can be adapted to work in conjunction with AQCESS to provide information.

WHMC needs to define its information and user requirements, establish a common data dictionary, evaluate that information already available, and pursue a system to meet its needs. This facility faces a costly decision which must be made quickly. It is recommended that a multidisciplinary work group, to include representatives from medical systems and physician, nurse, support, and ancillary services start this evaluation as quickly as possible.

CHAPTER 5

SUMMARY AND RECOMMENDATIONS FOR FURTHER STUDY

Summary

Utilization management otfers practitioners a methodology statistically proven to save substantial amounts of money while expanding accessibility and improving the quality of care rendered. This study documented the possible cost savings potentially available to Wilford Hall U.S. Air Force Medical Center through adoption of utilization management techniques.

Productivity and cost data for WHMC were extracted from the Fourth Quarter, Fiscal Year 1991, Medical Expense Report of the Medical Expense and Performance Reporting System. These data are universal in the military health services system, and this source reflects the full cost of providing care by inclusion of military salaries and assignment of all costs to final output centers. Also, use of MEPRS data allowed for cost and performance tracking to the department level. Projected savings for Wilford Hall, based upon these data, would range from $4,014,594 to $17,667,944 on admissions and from $6,482,598 to $23,769,525 on total expenses.

Final and intermediate output products were identified and explained. Relationships between these output products and utilization management components were defined in order to allow

management to monitor the effect of utilization management on cost containment. Finally, in the Discussion, this writer addressed some of the questions which must be answered if internal utilization management is to succeed. Recognizing that each facility presents its own unique demands and challenges, this study leaves the specifics of implementation to the leadership of WHMC. The principles identified in this study should apply to all Department of Defense hospitals.

Recommendations for Further Study

Civilian hospitals, spurred by Health Care Finance Administration reimbursement policy, have implemented what is termed a "23-hour observation unit." This unit is used as a low-cost option (due to staffing) to determine whether or not admission is actually appropriate. This concept should be investigated for similar "low cost" applications for WHMC. Possible applications might be for presurgical stays, additional testing, and, possibly, a "step-down" care unit. A separate MEPRS code could be applied to see if savings based on reduced labor actually occurred.

Introduction of utilization management is a fairly new concept and, as such, presents a myriad of opportunities for additional studies. Studies could be accomplished to compare and contrast benefits of implicit and explicit criteria. Could explicit criteria be modified to meet unique demands placed upon the military healthcare system? and, if so, how? Other

possibilities include an analysis to determine (1) the amount of sentinel effect of utilization management that exists in military hospitals, (2) the method of implementation of an appropriate reward structure to accelerate acceptance of UM, and (3) the ethical implications associated with utilization management. Once ambulatory visit groups are available and have proliferated, utilization management on the ambulatory side of military medicine should be studied as well.

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Table 1

Potential Impact of Utilization Management on Final and Intermediate Products

Indicator	Factor (Percent)			Volume Reduction				Cost Savings				
	Low	Medium	High	Total	Low	Medium	High	Total	Per Unit	Low	Medium	High
Final Products												
Admissions	3.00	6.00	13.00	27,113	813	1,626	3,524		$4,938.00	$4,014,594	$ 8,037,126	$17,667,944
Total expenses	3.00	6.00	11.00					$216,086,594		6,482,598	12,965,196	23,769,525
Intermediate Products												
Bed days	3.00	6.00	11.00	206,127	6,184	12,368	22,674		$ 649.49	$4,016,446	$ 8,032,892	$14,926,536
Inpatient expenses	3.00	6.00	12.93					$133,878,237		4,016,347	8,032,694	17,364,007
Ancillary services expenses	3.00	6.00	14.80					107,336,413		3,220,092	6,440,185	15,450,624

APPENDIX

MEDICAL EXPENSE AND PERFORMANCE REPORTING SYSTEM

FOURTH QUARTER, FISCAL YEAR 1991,

MEDICAL EXPENSE REPORT

FACILITY NAME: WILFORD HALL USAF MEDICAL CTR
FACILITY CODE: FFGTS0 DOD REGION: 05

QUARTER 4 : 01 JUL - 30 SEP FY 91 YEAR TO DATE

----------PART I - DIRECT PATIENT CARE ----------
SECTION 1 - INPATIENT SERVICES

ACCT	DESCRIPTION	DISPOSITION BY/INPT/ ACCOUNT	TOTAL EXPENSES	CLINICAL BY INPT ACCT	OCCUP'D BED DAYS BY SPEC	COST PER BD
AAA	INTERNAL MEDICINE	2577	11401808	335331	19221	593.20
AAB	CARDIOLOGY	1728	7045653	396261	13653	516.05
AAC	CORONARY CARE UNIT	448	4347780	13070	3577	1215.48
AAD	DERMATOLOGY	133	425025	34796	1185	358.67
AAE	ENDOCRINOLOGY	30	135771	15509	152	893.23
AAF	GASTROENTEROLOGY	160	579807	139542	1009	574.64
AAG	HEMATOLOGY	310	1711869	36483	3449	496.34
AAH	INTENSIVE CARE UNIT (MEDICAL)	0	4797694	25568	4334	1106.99
AAI	NEPHROLOGY	66	569247	5583	459	1240.19
AAJ	NEUROLOGY	632	2079620	233629	5002	415.76
AAK	ONCOLOGY	604	4523094	73778	7326	617.40
AAL	PULMONARY/UPPER RESPIRATORY DI	124	1091405	151033	1345	811.45
AAM	RHEUMATOLOGY	64	294714	105555	402	733.12
AAP	HIV III (AIDS)	508	1827084	3467	5403	338.16
AAQ	BONE MARROW TRANSPLANT	94	4402966	34410	2065	2132.19
AAR	INFECTIOUS DISEASE	19	118131	49999	183	645.52
AAS	ALLERGY	17	80076	14203	185	432.84
AAX	COST POOLS	0	0	0	0	0.00
ABA	GENERAL SURGERY	3033	8895376	450809	15559	571.72
ABB	CARDIOVASCULAR AND THORACIC SU	323	5012981	151259	3886	1290.01
ABC	INTENSIVE CARE UNIT (SURGICAL)	0	8883721	432210	9533	931.89
ABD	NEUROSURGERY	540	3436768	54306	5608	612.83
ABE	OPTHALMOLOGY	818	2211877	364154	3120	708.93
ABF	ORAL SURGERY	702	1750028	46482	1824	959.45
ABG	OTORHINOLARYNGOLOGY	1320	4588628	115279	5503	833.84
ABH	PEDIATRIC SURGERY	185	739134	22208	766	964.93
ABI	PLASTIC SURGERY	493	2417890	159700	2577	938.26
ABK	UROLOGY	1487	6260224	166367	8259	757.99
ABL	ORGAN TRANSPLANT	360	2971671	131742	3384	878.15
ABN	PERIPHERAL VASCULAR SURGERY	429	3442161	94033	5609	613.69

FACILITY NAME: WILFORD HALL USAF MEDICAL CTR
FACILITY CODE: FFGTS0 DOD REGION: 05

QUARTER 4 : 01 JUL - 30 SEP FY 91 YEAR TO DATE

----------PART I - DIRECT PATIENT CARE ----------

SECTION 1 - INPATIENT SERVICES

ACCT	DESCRIPTION	DISPOSITION BY/INPT/ ACCOUNT	TOTAL EXPENSES	CLINICAL BY INPT ACCT	OCCUPIED BED DAYS BY SPEC	COST PER OBD
ABO	TRAUMA CENTER	61	1387272	89431	320	4335.23
ABP	HEAD AND NECK SURGERY	43	102221	25554	238	429.50
ABX	COST POOLS	0	0	0	0	0.00
ACA	GYNECOLOGY	1508	4957454	144455	7414	668.66
ACB	OBSTETRICS	1849	4330641	200918	10927	396.32
ACX	COST POOLS	0	0	0	0	0.00
ADA	PEDIATRICS	1394	2959093	186670	5924	499.51
ADB	NURSERY (NEONATAL CARE)	1631	1473717	15600	5140	286.72
ADC	NEONATAL ICU	0	5053493	500849	5682	889.39
ADD	ADOLESCENT PEDIATRICS	95	162139	7242	566	286.46
ADX	COST POOLS	0	0	0	0	0.00
ADZ	ACCTS NOT OTHERWISE CLASSIFIED	195	2964149	573147	1833	1617.10
AEA	ORTHOPEDICS	1896	8298697	737654	11392	728.47
AEB	PODIATRY	0	1828	0	0	0.00
AEC	HAND SURGERY	6	25074	16812	22	1139.73
AEX	COST POOLS	0	0	0	0	0.00
AFA	PSYCHIATRICS	1080	4402007	302401	18592	236.77
AFB	SUBSTANCE ABUSE REHABILITATION	131	1718249	511	3499	491.07
AFX	COST POOLS	0	0	0	0	0.00
	TOTAL	27113	133878237	6658010	206127	649.49

SECTION 2 - AMBULATORY SERVICES

ACCT	DESCRIPTION	TOTAL EXPENSES	OUTPT VISITS BY AMBL/ ACCOUNT	INPAT VISITS	COST PER TOT VIST
BAA	INTERNAL MEDICINE CLINIC	9156899	86494	1944	103.54

FACILITY NAME: WILFORD HALL USAF MEDICAL CTR
FACILITY CODE: FFGTS0 DOD REGION: 05

QUARTER 4 : 01 JUL - 30 SEP FY 91 YEAR TO DATE

SECTION 2 - AMBULATORY SERVICES

ACCT	DESCRIPTION	TOTAL EXPENSES	OUTPT VISITS BY AMBL/ ACCOUNT	INPAT VISITS	COST PER TOT VIST
BAB	ALLERGY CLINIC	1789729	20331	362	86.49
BAC	CARDIOLOGY CLINIC	2603061	27922	6020	76.69
BAF	ENDOCRINOLOGY (METABOLISM) CLI	1310998	14889	1007	82.47
BAG	GASTROENTEROLOGY CLINIC	1475783	10944	1048	123.06
BAH	HEMATOLOGY CLINIC	974976	3678	562	229.95
BAJ	NEPHROLOGY CLINIC	1118219	3377	2133	202.94
BAK	NEUROLOGY CLINIC	1485241	13648	1365	98.93
BAL	NUTRITION CLINIC	109900	6092	4700	10.18
BAM	ONCOLOGY CLINIC	1510653	11104	2400	111.87
BAN	PULMONARY DISEASE CLINIC	1664486	8187	1900	165.01
BAO	RHEUMATOLOGY CLINIC	876268	14636	1304	54.97
BAP	DERMATOLOGY CLINIC	1707296	34536	683	48.48
BAQ	INFECTIOUS DESEASE CLINIC	415935	2782	8265	37.65
BAZ	ACCTS NOT OTHERWISE CLASSIFIED	745281	2915	1368	481.76
BBA	GENERAL SURGERY CLINIC	3007945	13668	281	215.64
BBB	CARDIOVASCULAR AND THORACIC SU	1063943	1451	160	660.42
BBC	NEUROSURGERY CLINIC	566905	3338	110	164.42
BBD	OPHTHALMOLOGY CLINIC	1892492	26227	6	72.14
BBE	ORGAN TRANSPLANT CLINIC	725826	5543	174	126.96
BBF	OTORHINOLARYNGOLOGY CLINIC	1477323	17024	14	86.71
BBG	PLASTIC SURGERY CLINIC	807354	3998	164	193.98
BBI	UROLOGY CLINIC	2353099	16024	356	143.66
BBZ	ACCTS NOT OTHERWISE CLASSIFIED	231837	7551	692	28.13
BCA	FAMILY PLANNING CLINIC	10116	2016	0	5.02
BCB	GYNECOLOGY CLINIC	3820495	51271	35	74.46
BCC	OBSTETRICS CLINIC	1569204	23796	2	65.94
BCX	COST POOLS	0	0	0	0.00
BDA	PEDIATRIC CLINIC	4273923	48421	4135	81.32
BDB	ADOLESCENT CLINIC	164142	5128	2	32.00
BDC	WELL BABY CLINIC	96751	5250	125	18.37
BDX	COST POOLS	0	0	0	0.00
BEA	ORTHOPEDIC CLINIC	3842808	23854	0	161.10

FACILITY NAME: WILFORD HALL USAF MEDICAL CTR
FACILITY CODE: FFGTS0 DOD REGION: 05

QUARTER 4 : 01 JUL - 30 SEP FY 91 YEAR TO DATE

SECTION 2 - AMBULATORY SERVICES

ACCT	DESCRIPTION	TOTAL EXPENSES	OUTPT VISITS BY AMBL/ ACCOUNT	INPAT VISITS	COST PER TOT VIST
BEB	CAST CLINIC	236364	0	0	0.00
BEF	PODIATRY CLINIC	394717	8689	5	45.40
BEX	COST POOLS	0	0	0	0.00
BFA	PSYCHIATRIC CLINIC	487718	12028	3475	31.46
BFB	PSYCHOLOGY CLINIC	1975632	44778	866	43.28
BFC	CHILD GUIDANCE CLINIC	119312	2314	7	51.41
BFD	MENTAL HEALTH CLINIC	2185218	6334	9	344.51
BFE	SOCIAL WORK CLINIC	1128355	9453	10606	56.25
BFF	SUBSTANCE ABUSE REHABILITATION	2542	409	0	6.22
BHA	PRIMARY CARE CLINIC	10815352	155936	0	69.36
BHC	OPTOMETRY CLINIC	1285178	39259	0	32.61
BHD	AUDIOLOGY CLINIC	882610	9376	9	94.04
BHE	SPEECH PATHOLOGY CLINIC	250512	3704	120	65.51
BHI	IMMEDIATE CARE CLINIC	37171	0	0	0.00
BIA	EMERGENCY MEDICAL CLINIC	7280133	56105	0	129.76
BJA	FLIGHT MEDICINE CLINIC	2273655	57790	0	39.34
	TOTAL	82208357	922270	53678	84.23

SECTION 3 - DENTAL HEALTH SERVICES

ACCT	DESCRIPTION	TOTAL EXPENSES	DENTAL/WORKLOAD BY ACCOUNT	COST PER UNIT
CAAA		10315510	665406	15.50
CABA		2352871	0	0.00
CCAA		2409100	354873	6.79
	TOTAL	15077481	0	0.00

PART II - ANCILLARY SERVICES

ACCT	DESCRIPTIO	DIRECT AND SUPPORT EXPENSE	ANCILARY COST	TOTAL EXPENSE ASSIGNED	ANCILLAR /WORKL*D BY/ACCOUNT	COST PER UNIT
DAA	PHARMACY	29394678	0	29394678	2785893	10.5513

FACILITY NAME: WILFORD HALL USAF MEDICAL CTR
FACILITY CODE: FFGTS0 DOD REGION: 05

QUARTER 4 : 01 JUL - 30 SEP FY 91 YEAR TO DATE

----------PART II - ANCILLARY SERVICES ----------

ACCT	DESCRIPTION	DIRECT AND SUPPORT EXPENSE	ANCILARY COST	TOTAL EXPENSE ASSIGNED	ANCILLAR /WORKL=D BY/ACCOU NT	COST PER UNIT
DBA	CLINICAL PATHOLOGY	12616164	15280	12631444	15439430	0.8181
DBB	ANATOMICAL PATHOLOGY	1563195	6260	1569455	2638117	0.5949
DBC	BLOOD BANK	1348925	2162	1351087	3570885	0.3784
DCA	DIAGNOSTIC RADIOLOGY	10022373	124878	10147251	1324925	7.6587
DCB	THERAPEUTIC RADIOLOGY	1358650	113800	1472450	501242	2.9376
DDA	ELECTROCARDIOGRAPHY	797397	3297	800694	20668	38.7408
DDB	ELECTROENCEPHALOGRAPHY	143213	1964	145177	1132	128.2482
DDC	ELECTRONEUROMYOGRAPHY	57564	54	57618	774	74.4419
DDD	PULMONARY FUNCTION	149645	3005	152650	54947	2.7781
DDE	CARDIAC CATHETERIZATION	3820160	4752	3824912	168970	22.6366
DEA	CENTRAL STERILE SUPPLY	1911546	200	1911746	30484	62.7131
DEB	CENTRAL MATERIEL SERVICE	13377601	25	13377626	7528945	1.7768
DFA	ANESTHESIOLOGY	5573622	787075	6360697	1704450	3.7318
DFB	SURGICAL SUITE	9795559	6558331	16353890	1903410	8.5919
DFC	RECOVERY ROOM	1235952	173152	1409104	524550	2.6863
DGA	SAME DAY SURGERY	97348	84	97432	581808	0.1675
DGB	HEMODIALYSIS	669587	62059	731646	1072210	0.6824
DHA	INHALATION/RESPIRATORY THERAPY	879743	45841	925584	66958	13.8234
DHB	OCCUPATIONAL THERAPY	1069740	3770	1073510	23661	45.3704
DHD	PHYSICAL THERAPY	1811643	22227	1833870	53463	34.3017
DIA	NUCLEAR MEDICINE	1696516		1713892	968373	1.7699
	TOTAL	99390821	79	7336413	40965295	0.0000

MEDICAL EXPENSE AND PERFORMANCE REPORT

FACILITY NAME: WILFORD HALL USAF MEDICAL CTR
FACILITY CODE: FFGTS0 DOD REGION: 05

QUARTER 4: 01 JUL - 30 SEP FY 91 YEAR TO DATE

PART I MEDICAL EXPENSE REPORT

SECTION 1 - INPATIENT SERVICES

ACCT	DESCRIPTION	TOTAL EXPENSES	CLINIC'N SALARIES	OCCUPIED BED DAYS	COST PER OBD	TOTAL DISPS	COST PER DISP	ALOS	ADPL	INPATIENT WORK UNITS (IWUS)
AAA	INTERNAL MEDICINE	11401808	335331	19221	593.20	2577	4424.45	7.5	41.7	
AAB	CARDIOLOGY	7045653	396261	13653	516.05	1728	4077.35	7.9	29.6	
AAC	CORONARY CARE UNIT	4347780	13070	3577	1215.48	448	9704.87	8.0	7.8	
AAD	DERMATOLOGY	425025	34796	1185	358.67	133	3195.68	8.9	2.6	
AAE	ENDOCRINOLOGY	135771	15509	152	893.23	30	4525.70	5.1	0.3	
AAF	GASTROENTEROLOGY	579807	139542	1009	574.64	160	3623.79	6.3	2.2	
AAG	HEMATOLOGY	1711869	36483	3449	496.34	310	5522.16	11.1	7.5	
AAH	INTENSIVE CARE UNIT (MEDICAL)	4797694	25568	4034	1186.39	0	0.00	0.0	9.4	
AAI	NEPHROLOGY	589247	5583	459	1240.19	86	6619.15	5.3	1.0	
AAJ	NEUROLOGY	2079620	233629	5002	415.76	632	3290.54	7.9	19.9	
AAK	ONCOLOGY	4523694	73778	7326	617.40	604	7488.57	12.1	15.9	
AAL	PULMONARY/UPPER RESPIRATORY DISEAS	1091405	151033	1345	811.45	124	8801.65	10.8	2.9	
AAM	RHEUMATOLOGY	294714	105555	402	733.12	64	4604.91	6.3	0.9	
AAP	HIV III (AIDS)	1827084	3467	5403	338.16	508	3596.62	10.6	11.7	
AAQ	BONE MARROW TRANSPLANT	4402966	34410	2065	2132.19	94	46840.06	22.0	4.5	
AAR	INFECTIOUS DISEASE	118131	49939	183	645.52	19	6217.42	9.6	0.4	
AAS	ALLERGY	80076	14203	185	432.84	17	4710.35	10.9	0.4	
	SUBTOTAL	45431744	1668217	68950	658.91	7534	6030.23	9.2	149.6	

FACILITY NAME: WILFORD HALL USAF MEDICAL CTR
FACILITY CODE: FFGTS0 DOD REGION: 05

QUARTER 4: 01 JUL - 30 SEP FY 91 YEAR TO DATE

PART I MEDICAL EXPENSE REPORT

SECTION 1 - INPATIENT SERVICES

ACCT	DESCRIPTION	TOTAL EXPENSES	CLINICIAN SALARIES	OCCUPIED BED DAYS	COST PER OBD	TOTAL DISPS	COST PER DISP	ALOS	ADPL	INPATIENT WORK UNITS (IWUS)
ABA	GENERAL SURGERY	8895376	450809	15559	571.72	3033	2932.86	5.1	33.8	
ABB	CARDIOVASCULAR AND THORACIC SURGER	5012981	151259	3886	1290.01	323	15520.07	12.0	8.4	
ABC	INTENSIVE CARE UNIT (SURGICAL)	8883721	432210	9533	931.89	0	0.00	0.0	26.7	
ABD	NEUROSURGERY	3436768	54306	5608	612.83	540	6364.39	10.4	12.2	
ABE	OPTHALMOLOGY	2211877	364154	3120	708.93	818	2704.01	3.8	6.8	
ABF	ORAL SURGERY	1750028	46482	1824	959.45	702	2492.92	2.6	4.8	
ABG	OTORHINOLARYNGOLOGY	4588628	115279	5503	833.84	1320	3476.23	4.2	11.9	
ABH	PEDIATRIC SURGERY	739134	22208	766	964.93	185	3995.32	4.1	1.7	
ABJ	PLASTIC SURGERY	2417890	159700	2577	938.26	493	4904.44	5.2	5.6	
ABK	UROLOGY	6260224	166367	8259	757.99	1467	4269.97	5.6	17.9	
ABL	ORGAN TRANSPLANT	2971671	131742	3384	878.15	360	8254.64	9.4	7.3	
ABN	PERIPHERAL VASCULAR SURGERY	3442161	94033	5609	613.69	429	8023.69	13.1	12.2	
ABO	TRAUMA CENTER	1387272	89431	320	4335.23	61	22742.16	5.2	0.7	
ABP	HEAD AND NECK SURGERY	102221	25554	238	429.50	43	2377.23	5.5	0.5	
	SUBTOTAL	52099952	2303534	66186	787.17	9794	5319.58	6.8	143.6	
ACA	GYNECOLOGY	4957454	144455	7414	668.66	1508	3287.44	4.9	16.1	
ACB	OBSTETRICS	4330641	200918	10927	396.32	1849	2342.15	5.9	23.7	
	SUBTOTAL	9288095	345373	18341	506.41	3357	2766.78	5.5	39.8	
ADA	PEDIATRICS	2959093	186670	5924	499.51	1394	2122.74	4.2	12.9	
ADB	NURSERY (NEONATAL CARE)	1473717	15600	5140	286.72	1631	903.57	3.2	11.1	
ADC	NEONATAL ICU	5053493	500645	5682	889.39	0	0.00	0.0	12.3	
ADD	ADOLESCENT PEDIATRICS	162139	7242	566	286.46	95	1706.73	6.0	1.2	
ADZ	ACCTS NOT OTHERWISE CLASSIFIED	2964149	573147	1833	1617.10	195	15200.76	9.4	4.0	
	SUBTOTAL	12612591	1283508	19145	658.79	3315	3804.70	5.8	41.5	
EA	ORTHOPEDICS	8298697	737654	11392	728.47	1896	4376.95	6.0	24.7	
EB	PODIATRY	1828	0	0	0.00	0	0.00	0.0	0.0	
EC	HAND SURGERY	25074	16812	22	1139.73	6	4179.00	3.7	0.0	
	SUBTOTAL	8325599	754466	11414	729.42	1902	4377.29	6.0	24.8	
FA	PSYCHIATRICS	4402007	302401	18592	236.77	1080	4075.93	17.2	48.3	
FB	SUBSTANCE ABUSE REHABILITATION	1718249	511	3499	491.07	131	13116.48	26.7	7.6	
	SUBTOTAL	6120256	302912	22091	277.05	1211	5053.89	18.2	47.9	
	TOTAL (RCM) = 1.6059)	33878237	6658010	206127	649.49	27113	4937.79	7.6	447.1	43541

MEDICAL EXPENSE AND PERFORMANCE REPORT

FACILITY NAME: WILFORD HALL USAF MEDICAL CTR
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PART I MEDICAL EXPENSE REPORT

SECTION 2 - AMBULATORY CARE

ACCT	DESCRIPTION	TOTAL EXPENSES	INPTNT VISITS	OUTPTNT VISITS	TOTAL VISITS	AWU WEIGHTS	COST PER TOTAL VISITS	AMBULATORY WORK UNITS (AWUS)	COST PER AWU
3AA	INTERNAL MEDICINE CLINIC	9156899	1944	86494	88438	.0395	103.54	3493	2621.50
3AB	ALLERGY CLINIC	1789729	362	20331	20693	.0083	86.49	172	10405.40
3AC	CARDIOLOGY CLINIC	2603061	6020	27922	33942	.0364	76.69	1235	2107.74
3AF	ENDOCRINOLOGY (METABOLISM) CLINIC	1310998	1007	14889	15896	.0399	82.47	634	2067.82
3AG	GASTROENTEROLOGY CLINIC	1475783	1048	10944	11992	.0338	123.06	405	3643.91
3AH	HEMATOLOGY CLINIC	374976	562	3678	4240	.0455	229.95	193	5051.69
3AJ	NEPHROLOGY CLINIC	1118219	2133	3377	5510	.0629	202.94	347	3222.53
3AK	NEUROLOGY CLINIC	1485241	1365	13648	15013	.0364	98.93	546	2720.22
3AL	NUTRITION CLINIC	109900	4700	6092	10792	.0127	10.18	137	802.19
3AM	ONCOLOGY CLINIC	1510653	2400	11104	13504	.0466	111.87	629	2401.67
3AN	PULMONARY DISEASE CLINIC	1664486	1900	8187	10087	.0410	165.01	414	4020.50
3AQ	RHEUMATOLOGY CLINIC	876268	1304	14636	15940	.0343	54.97	547	1601.95
3AP	DERMATOLOGY CLINIC	1707296	683	34536	35219	.0216	48.48	761	2243.49
3AQ	INFECTIOUS DESEASE CLINIC	415935	8265	2782	11047	.0395	37.65	436	953.98
3AZ	ACCTS NOT OTHERWISE CLASSIFIED	745281	1368	2915	1547	.0395	481.76	61	12217.72
	SUBTOTAL	26944725	32325	261535	293860		91.69	10010	2691.78
3BA	GENERAL SURGERY CLINIC	3007945	281	13668	13949	.0345	215.64	481	6253.52
3BB	CARDIOVASCULAR AND THORACIC SURGERY CLINIC	1063943	160	1451	1611	.0377	660.42	61	17441.69
3BC	NEUROSURGERY CLINIC	566905	110	3338	3448	.0583	164.42	201	2820.42
3BD	OPHTHALMOLOGY CLINIC	1892492	6	26227	26233	.0276	72.14	724	2613.94
3BE	ORGAN TRANSPLANT CLINIC	725826	174	5543	5717	.0723	126.96	413	1757.45
3BF	OTORHINOLARYNGOLOGY CLINIC	1477323	14	17024	17038	.0385	86.71	520	2841.81
3BG	PLASTIC SURGERY CLINIC	807354	164	3998	4162	.0406	193.98	169	4777.24
3BI	UROLOGY CLINIC	2353099	356	16024	16380	.0397	143.66	650	3620.15
3BZ	ACCTS NOT OTHERWISE CLASSIFIED	201837	692	7551	8243	.0345	28.13	284	816.33
	SUBTOTAL	12126724	1957	94824	96781		125.30	3503	3461.81
3CA	FAMILY PLANNING CLINIC	10116	0	2016	2016	.0249	5.02	50	202.32
3CB	GYNECOLOGY CLINIC	3820495	35	51271	51306	.0236	74.46	1211	3154.83
3CC	OBSTETRICS CLINIC	1569284	2	23796	23798	.0260	65.94	619	2535.86
	SUBTOTAL	5399815	37	77083	77120		70.02	1880	2872.24

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PART I MEDICAL EXPENSE REPORT

SECTION 2 - AMBULATORY CARE

ACCT	DESCRIPTION	TOTAL EXPENSES	INPTNT VISITS	OUTPTNT VISITS	TOTAL VISITS	AWU WEIGHTS	COST PER TOTAL VISITS	AMBULATORY WORK UNITS (AWUS)	COST PER AWU
BDA	PEDIATRIC CLINIC	4273923	4135	48421	52556	.0200	81.32	1051	4066.53
BDB	ADOLESCENT CLINIC	164142	2	5128	5130	.0254	32.00	130	1262.63
BDC	WELL BABY CLINIC	98751	125	5250	5375	.0156	18.37	84	1175.61
	SUBTOTAL	4536816	4262	58799	63061		71.94	1265	3586.42
BEA	ORTHOPEDIC CLINIC	3842808	0	23854	23854	.0362	161.10	864	4447.69
BEB	CAST CLINIC	236364	0	0	0	.0200	0.00	0	0.00
BEF	PODIATRY CLINIC	394717	5	8689	8694	.0211	45.40	183	2156.52
	SUBTOTAL	4473889	5	32543	32548		137.46	1047	4273.86
BFA	PSYCHIATRIC CLINIC	487718	3475	[illegible]	[illegible]	.0346	31.46	536	909.92
BFB	PSYCHOLOGY CLINIC	1975632	866	44778	45644	.0295	43.28	1346	1467.78
BFC	CHILD GUIDANCE CLINIC	119312	7	2314	2321	.0279	51.41	65	1835.57
BFD	MENTAL HEALTH CLINIC	2185218	9	6334	6343	.0332	344.51	211	10356.48
BFE	SOCIAL WORK CLINIC	1128355	10606	9453	20059	.0213	56.25	427	2642.52
BFF	SUBSTANCE ABUSE REHABILITATION CLINIC	2542	0	409	409	.0332	6.22	14	181.57
	SUBTOTAL	5898777	14963	75316	90279		65.34	2599	2269.63
BHA	PRIMARY CARE CLINIC	10815352	0	155936	155936	.0263	69.36	4101	2637.25
BHC	OPTOMETRY CLINIC	1288178	0	39259	39259	.0163	32.81	640	2012.78
BHD	AUDIOLOGY CLINIC	882610	9	9376	9385	.0150	94.04	141	6259.65
BHE	SPEECH PATHOLOGY CLINIC	250512	120	3704	3824	.0232	65.51	89	2814.74
BHI	IMMEDIATE CARE CLINIC	37171	0	0	0	.0335	0.00	0	0.00
	SUBTOTAL	13273823	129	208275	208404		63.69	4971	2670.25
BIA	EMERGENCY MEDICAL CLINIC	7280133	0	56105	56105	.0335	129.76	1880	3872.41
	SUBTOTAL	7280133	0	56105	56105		129.76	1880	3872.41
BJA	FLIGHT MEDICINE CLINIC	2273655	0	57790	57790	.0286	39.34	1653	1375.47
	SUBTOTAL	2273655	0	57790	57790		39.34	1653	1375.47
	TOTAL	82208357	53678	922270	975948		84.23	28808	2853.66

MEDICAL EXPENSE AND PERFORMANCE REPORT

FACILITY NAME: WILFORD HALL USAF MEDICAL CTR
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PART I MEDICAL EXPENSE REPORT

RELATED CASE MIX INDEX (RCMI)	1.6059
TOTAL INPATIENT WORK UNITS (IWUS)	43541
COST PER IWU	3074.76
TOTAL AMBULATORY WORK UNITS (AWUS)	28808
TOTAL COST PER TOTAL AWU	2853.66
TOTAL MEDICAL WORK UNITS (MWUS)	72349
COST PER MWU	2986.73

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PART I MEDICAL EXPENSE REPORT

SECTION 3 - DENTAL CARE

ACCT	DESCRIPTION	TOTAL EXPENSES	WEIGHTED DENTAL PROCEDURES	COST PER WEIGHTED PROCEDURE
CAA	DENTAL CARE	10315510	665406	15.50
CAB	DENTAL PATIENT CARE ADMINISTRATION	2352871	0	0.00
	SUBTOTAL	12668381	665406	19.04
CCA	TYPE 2 DENTAL PROSTHETIC LABORATORY	2409100	354873	6.79
	SUBTOTAL	2409100	354873	6.79
	TOTAL	15077481		

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PART I MEDICAL EXPENSE REPORT

SECTION 4 - ANCILLARY SERVICES

ACCT	DESCRIPTION	DIRECT EXPENSES	SUPPORT & ANCILLARY EXPENSES	TOTAL EXPENSES	ANCILLARY WORKLOAD	COST PER UNIT	PERFORMANCE DESCRIPT
DAA	PHARMACY	27149233	2245445	29394678	2785893	10.55	
	SUBTOTAL	27149233	2245445	29394678	2785893	10.55	
DBA	CLINICAL PATHOLOGY	10772626	1858818	12631444	15439430	0.82	WEIGHTED PROCEDURE
DBB	ANATOMICAL PATHOLOGY	1316959	252496	1569455	2638117	0.59	WEIGHTED PROCEDURE
DBC	BLOOD BANK	1101502	249585	1351087	3570885	0.38	
	SUBTOTAL	13191087	2360899	15551986	21648432	0.72	
DCA	DIAGNOSTIC RADIOLOGY	7926561	2220690	10147251	1324925	7.66	WEIGHTED PROCEDURE
DCB	THERAPEUTIC RADIOLOGY	1095991	376459	1472450	501242	2.94	
	SUBTOTAL	9022552	2597149	11619701	1826167	6.36	
DDA	ELECTROCARDIOGRAPHY	664499	136195	800694	20668	38.74	PROCEDURE
DDB	ELECTROENCEPHALOGRAPHY	118091	27086	145177	1132	128.25	PROCEDURE
DDC	ELECTRONEUROMYOGRAPHY	47604	10014	57618	774	74.44	WEIGHTED PROCEDURE
DDD	PULMONARY FUNCTION	115373	37277	152650	54947	2.78	WEIGHTED PROCEDURE
DDE	CARDIAC CATHETERIZATION	3251522	573390	3824912	168970	22.64	
	SUBTOTAL	4197089	783962	4981051	0	0.00	
DEA	CENTRAL STERILE SUPPLY	1163779	747967	1911746	30484	62.71	$ SUPP/MIN PL EQUIP
DEB	CENTRAL MATERIEL SERVICE	12387034	990592	13377626	7528945	1.78	
	SUBTOTAL	13550813	1738559	15289372	0	0.00	
DFA	ANESTHESIOLOGY	4987906	1372791	6360697	1784458	3.73	MINUTES OF SERVICE
DFB	SURGICAL SUITE	8100645	8253245	16353890	1903410	8.59	MINUTES OF SERVICE
DFC	RECOVERY ROOM	1015610	393494	1409104	524558	2.69	
	SUBTOTAL	14104161	10019530	24123691	0	0.00	
DGA	SAME DAY SURGERY	71548	25884	97432	581808	0.17	MINUTES OF SERVICE
DGB	HEMODIALYSIS	484792	246854	731646	1072210	0.68	PNT MINUTES OF SERVIC
	SUBTOTAL	556340	272738	829078	0	0.00	
DHA	INHALATION/RESPIRATORY THERAPY	729932	195652	925584	66956	13.82	VISIT
DHB	OCCUPATIONAL THERAPY	817039	256471	1073510	23661	45.37	VISIT
DHD	PHYSICAL THERAPY	1293819	540651	1833870	53463	34.30	
	SUBTOTAL	2840790	992174	3832964	0	0.00	
DIA	NUCLEAR MEDICINE	1422759	291133	1713892	968373	1.77	
	SUBTOTAL	1422759	291133	1713892	0	0.00	
	TOTAL	86034824	21301589	7336413			

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PART I MEDICAL EXPENSE REPORT

SECTION 5 - SUPPORT SERVICES

ACCT	DESCRIPTION	DIRECT EXPENSES	TOTAL EXPENSES	PERFORMANCE FACTOR	COST PER PERFORMANCE FACTOR	PERFORMANCE DESCRIPTION
EAA	INPATIENT DEPRECIATION	1867420	1867420	0	0.00	TOTAL VISITS BY B ACCTS
EAB	AMBULATORY DEPRECIATION	1244944	1244944	0	0.00	DENTAL DEPRECIATION DOLLA
EAC	DENTAL DEPRECIATION	87064	87064	0	0.00	SPECIAL PROGRAMS DEPRECIA
EAD	SPECIAL PROGRAM DEPRECIATION	35668	35668	0	0.00	RESERVED
	SUBTOTAL	3235096	3235096	0	0.00	
EBA	COMMAND	1478751	1603917	30737	52.18	FTE WORKMONTHS
EBB	SPECIAL STAFF	2013221	2139172	39982	53.50	FTE WORKMONTHS
EBC	ADMINISTRATION	7094508	7670599	186695	41.09	FTE WORKMONTHS
EBD	CLINICAL MANAGEMENT	6810274	7282223	124031	58.71	
EBE	GRADUATE MEDICAL EDUCATIONAL SUPPORT	182627	193393	0	0.00	
EBF	EDUCATIONAL & TRAINING PROGRAM SUPPORT	5105600	5467942	0	0.00	FTE WORKMONTHS
EBG	PEACETIME EXERCISE/DISASTER PREPAREDNESS	54913	188965	0	0.00	
	SUBTOTAL	22739894	24546211	381445	64.35	
ECH	FIRE PROTECTION - NONREIMBURSABLE	21393	21393	0	0.00	
ECK	OTHER BASE SPT SERVICES-NONREIMBURSABLE	3743861	3743861	0	0.00	
	SUBTOTAL	3765254	3765254	0	0.00	
EDA	PLANT MANAGEMENT - FUNDED	6905980	6992441	0	0.00	
EDB	OPERATION OF UTILITIES - FUNDED	3468834	3468844	0	0.00	
EDC	MAINTENANCE OF REAL PROPERTY - FUNDED	832243	832250	0	0.00	
EDD	MINOR CONSTRUCTION - FUNDED	881980	881980	0	0.00	
EDE	OTHER ENGINEERING SUPPORT - FUNDED	664557	664557	0	0.00	
EDG	TRANSPORTATION - FUNDED	204226	207860	0	0.00	
EDI	POLICE PROTECTION - FUNDED	511	4946	0	0.00	
EDJ	COMMUNICATIONS - FUNDED	1206602	1206725	0	0.00	
	SUBTOTAL	14184933	14279603	0	0.00	
EEA	MATERIEL MANAGEMENT SERVICE	3581551	4121346	1122087	3.67	
	SUBTOTAL	3581551	4121346	1122087	3.67	
EFB	HOUSEKEEPING - CONTRACT	4317784	4317861	3677896	1.17	
	SUBTOTAL	4317784	4317861	3677896	1.17	
EGA	BIOMEDICAL EQUIPMENT REPAIR - IN HOUSE	2058142	2424573	80265	30.21	HOURS OF SERVICE
	SUBTOTAL	2058142	2424573	80265	30.21	

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PART I MEDICAL EXPENSE REPORT

SECTION 5 - SUPPORT SERVICES

ACCT	DESCRIPTION	DIRECT EXPENSES	TOTAL EXPENSES	PERFORMANCE FACTOR	COST PER PERFORMANCE FACTOR	PERFORMANCE DESCRIPTION
EHB	LAUNDRY - CONTRACT	1396354	1422313	2449974	0.58	
	SUBTOTAL	1396354	1422313	2449974	0.58	
EIA	DIETETICS - IN HOUSE	5065260	6167942	298660	20.65	RATIONS SERVED
EIB	SUBSISTENCE	1444369	1473572	298660	4.93	RATIONS SERVED
	SUBTOTAL	6509629	7641514	597320	12.79	
EJA	INPATIENT ADMINISTRATION	2372272	2792575	206127	13.55	
	SUBTOTAL	2372272	2792575	206127	13.55	
EKA	AMBULATORY ADMINISTRATION	1454213	1723777	975644	1.77	
	SUBTOTAL	1454213	1723777	975644	1.77	
	TOTAL	65615122	70270123			

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PART I MEDICAL EXPENSE REPORT

SECTION 6 - SPECIAL PROGRAMS

ACCT	DESCRIPTION	TOTAL EXPENSES	PERFORMANCE FACTOR	COST PER PERFORMANCE FACTOR	PERFORMANCE DESCRIPTION
FAD	DEPARTMENT OF DEFENSE MILITARY BLOOD PROGRAM	1732511	0	0.00	WEIGHTED PROCEDURE
FAF	DRUG SCREENING AND TESTING PROGRAM	15478	16765	0.92	
FAH	CLINICAL INVESTIGATION PROGRAM	3367262	0	0.00	
FAK	STUDENT EXPENSES	11991222	0	0.00	
FAL	CONTINUING HEALTH EDUCATION	1712522	0	0.00	
FAZ	ACCTS NOT OTHERWISE CLASSIFIED	108728	0	0.00	
	SUBTOTAL	18927723			
FBB	PREVENTIVE MEDICINE	315465	0	0.00	
FBC	INDUSTRIAL HYGIENE PROGRAM	476274	0	0.00	
FBD	RADIATION HEALTH PROGRAM	372713	0	0.00	
FBE	ENVIRONMENTAL HEALTH PROGRAM	1019368	14951153	0.07	
FBI	IMMUNIZATIONS	838088	237129	3.53	
	SUBTOTAL	3021908			
FCA	SUPPLEMENTAL CARE	1420422	0	0.00	
FCB	GUEST LECTURER AND CONSULTANT PROGRAM	125937	0	0.00	
FCC	CHAMPUS BENEFICIARY SUPPORT	1338379	0	0.00	
FCD	SUPPORT TO OTHER MILITARY ACTIVITIES	1771385	0	0.00	
FCE	SUPPORT TO OTHER FEDERAL AGENCIES	88916	0	0.00	
FCF	SUPPORT TO NON FEDERAL ACTIVITIES	57975	0	0.00	
FCG	SUPPORT TO NON-MEPRS REPORTING ACTIVITIES	0	0	0.00	
	SUBTOTAL	4803014			
FDC	NONPATIENT FOOD OPERATIONS	2652915	103355	25.67	
FDE	INITIAL OUTFITTING	32	0	0.00	
FDH	MILITARY FUNDED EMERGENCY LEAVE	0	0	0.00	
	SUBTOTAL	2652947			
FEA	PATIENT TRANSPORTATION	93886	1486	63.18	
FEB	PATIENT MOVEMENT EXPENSES	65790	0	0.00	OBD BY TRANSIENT PNT
FED	MILITARY PATIENT PERSONNEL ADMINISTRATION	265762	0	0.00	
FEF	AEROMEDICAL STAGING FACILITIES	1372544	0	0.00	
	SUBTOTAL	1797982			
FGA	DEPLOYMENT PLANNING & ADMINISTRATION	242087	0	0.00	FTES
FGB	OTHER READINESS PLANNING & ADMINISTRATION	635762	0	0.00	FTES
	SUBTOTAL	877849			

MEDICAL EXPENSE AND PERFORMANCE REPORT

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PART I MEDICAL EXPENSE REPORT

SECTION 6 - SPECIAL PROGRAMS

ACCT	DESCRIPTION	TOTAL EXPENSES	PERFORMANCE FACTOR	COST PER PERFORMANCE FACTOR	PERFORMANCE DESCRIPTION
FHA	FIELD OR FLEET READINESS EXERCISES	4451	0	0.00	FTES
FHB	OTHER READINESS EXERCISES	22214	0	0.00	FTES
	SUBTOTAL	26665			
FIA	READINESS TRAINING CONDUCTED LOCALLY	5314421	0	0.00	FTES
FIB	OTHER READINESS EXERCISES	85885	0	0.00	FTES
	SUBTOTAL	5400306			
FJA	UNIT OR PERSONNEL DEPLOYMENT	7190168	0	0.00	FTES
	SUBTOTAL	7190168			
FKA	PREPOSITIONED WAR RESERVE	0	11505926	0.00	
	SUBTOTAL	0			
FMB	NDMS EXERCISES	727	0	0.00	00000000000000000000000000000000
	SUBTOTAL	727			
	TOTAL	44699289			

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PART II MEDICAL PERFORMANCE REPORT

SECTION 1 - INPATIENT SERVICES

PERFORMANCE DESCRIPTION: OCCUPIED BED DAYS

		CLINICIAN					
ACCT	DESCRIPTION	OFFICER FTE	CIVILIAN FTE	CONTRACT FTE	OTHER FTE	TOTAL FTE	OBD
AAA	INTERNAL MEDICINE	103.44	0.05	0.00	0.00	103.49	19221
AAB	CARDIOLOGY	75.03	0.00	0.00	0.00	75.03	13653
AAC	CORONARY CARE UNIT	3.97	0.00	0.00	0.00	3.97	3577
AAD	DERMATOLOGY	8.92	0.00	0.00	0.00	8.92	1185
AAE	ENDOCRINOLOGY	2.86	0.00	0.00	0.00	2.86	152
AAF	GASTROENTEROLOGY	29.89	0.00	0.00	0.00	29.89	1009
AAG	HEMATOLOGY	7.54	0.00	0.00	0.00	7.54	3449
AAH	INTENSIVE CARE UNIT (MEDICAL)	7.90	0.00	0.00	0.00	7.90	4334
AAI	NEPHROLOGY	1.54	0.00	0.00	0.00	1.54	459
AAJ	NEUROLOGY	40.69	0.00	0.00	0.00	40.69	5002
AAK	ONCOLOGY	15.29	0.00	0.00	0.00	15.29	7326
AAL	PULMONARY/UPPER RESPIRATORY DI	32.14	0.00	0.00	0.00	32.14	1345
AAM	RHEUMATOLOGY	22.80	0.00	0.00	0.00	22.80	402
AAP	HIV III (AIDS)	0.49	0.00	0.00	0.00	0.49	5403
AAQ	BONE MARROW TRANSPLANT	5.46	0.00	0.00	0.00	5.46	2065
AAR	INFECTIOUS DISEASE	7.37	0.00	0.00	0.00	7.37	183
AAS	ALLERGY	1.74	0.00	0.00	0.00	1.74	185
AAX	COST POOLS	0.00	0.00	0.00	0.00	0.00	0
	SUBTOTAL	367.07	0.05	0.00	0.00	367.12	68950